

Construction Selector



- Fire Ratings
- Acoustical Performance
- Product/System Index
- Specification Standards

Introduction

USG Corporation companies offer a wide range of quality products and performance-engineered systems to meet specialized requirements for modern building design. The manufacture of these products to carefully controlled standards ensures uniform quality. This *Construction Selector* covers products and systems from two USG Corporation companies:

United States Gypsum Company manufactures gypsum products, cement board panels, and related components for high-performance systems. In addition, the Company markets steel studs, runners and accessories as integral components for plaster and gypsum board systems. The Company has been a leader in the building industry since its founding in 1902.

USG Interiors, Inc. manufactures commercial ceiling products, relocatable partitions, access floor systems, and mineral fiber insulation for building construction. The Company offers the widest product range in the industry and has the unique capability to market integrated interior systems.

The USG Research Center, largest and most advanced in the industry, continually develops new products and high-performance systems which are designed to provide improved function and utility while reducing construction time and cost. Products and systems are marketed only after thorough testing and field trial.

United States Gypsum Company and USG Interiors, Inc. employ technical service and sales representatives to help design professionals gain maximum performance from materials and systems by advising on selection, proper detailing and specification. See the back cover for the location nearest you.

Contents

The USG Architectural Reference Library has a format suited for the architect's use—organized by function and end result—to save time in locating technical information and improve results. It is arranged for quick comparison of functional properties and separated to isolate concise data on each major construction system and product.

This *Construction Selector* is the key reference index to the USG Architectural Reference Library. It summarizes fire-rated construction and acoustical performance data of various systems for quick comparison and selection. Cross-references are provided to the System Folders having complete description, installation details and specifications. Product Folders provide technical data on components used in construction systems.

The table below gives the sequence of folders comprising the USG Architectural Reference Library. The numeral before each division title indicates the CSI MASTERFORMAT Division classification. Copies of all folders listed are available through Company sales offices.

The System Folders and Product Folders are arranged in numerical sequence. The first numeral in the title number is the appropriate division number (two digits for two-digit division numbers) so that folders are easily filed.

Folder No. & Title		Section No.
Div. 5/Metals		
UN-30	Steel Framing Systems: Technical Information	05400
Div. 7/Thermal & Moisture Protection		
SA-700	USG Exterior Products & Systems	07240
SA-707	THERMAFIBER Life Safety Fire Containment Systems	07200
SA-727	USG Fire Stop Systems for Floor and Wall Penetrations	07270
Div. 9/Finishes		
SA-904	DOWN Ceiling Suspension Systems	09120
SA-905	Ceiling Systems	09500
SA-906	INTEGRATED CEILINGS Specialty Products	09500
SA-920	Plaster Systems	09200
SA-923	Drywall/Steel Framed Systems	09250
SA-924	Drywall/Wood Framed Systems	09250
SA-925	USG Area Separation Wall Systems	09250
SA-926	USG Cavity Shaft Wall Systems	09250
SA-927	Gypsum Panels & Accessories	09250
SA-928	TEXTONE Vinyl-Faced Gypsum Panels	09985
SA-932	DUROCK Cement Board Systems	09390
SA-933	Texture and Finish Products	09800
Div. 10/Specialties		
SA-1020	Wall Systems	10615
SA-1027	DOWN Access Floor Systems	10270
Div. 11/Equipment		
SA-1119	STRUCTOCORE Security Wall Systems	11190

How to Use this Selector

This folder is divided into eleven sections—A to K—covering the categories indicated below. Within the first eight sections are listed brief analyses as documented by fire or sound tests, federal specifications or ASTM designations, or other pertinent criteria. They usually are arranged sequentially according to fire ratings—the criterion that most often governs selection.

The analyses applicable to each system, as listed in the sections A to H, are repeated in the individual folder covering that system, indicated by number in the "Folder Reference" column.

- A Partitions**—pages 6 to 15—include mechanically fastened and laminated assemblies, steel and wood-framed, load bearing and non-load bearing—in gypsum base and veneer finishes, gypsum drywall, cement board and conventional lath and plaster.
- B Ceilings**—pages 16 to 25—include suspended, furred and direct-attachment types, employing drywall, veneer finishes, conventional plaster and mineral fiber tile or panel surfaces with companion floor or roof construction.
- C Structural fireproofing**—pages 26 to 29—shows basic methods of protecting columns and beams with gypsum base and veneer finishes, mineral fireproofing and gypsum drywall.
- D Exterior walls**—pages 29 and 30—includes load-bearing wood and steel stud systems and exterior curtain wall assemblies.
- E Exterior wall furring**—pages 30 and 31—compares methods of furring exterior walls, including veneer and conventional plaster and drywall furring systems.
- F Curtain walls**—pages 31 and 32—covers glass, aluminum and granite spandrel panels, other metal-faced wall assemblies and glass-fiber reinforced concrete panels.
- G Through-Penetration Firestops**—page 32—provides firestop systems to block smoke and flames from passing through floor and wall penetrations.
- H Access floor systems**—pages 32 and 33—shows structural performance of panels and understructures for offices and computer rooms.
- I Metric Conversions**—page 33—includes information on metric-sized products.
- J Product and system catalogs**—page 34—provides a brief description of each catalog in the Architectural Reference Library.
- K Products/specification standards**—pages 35 and 36—Federal specification and ASTM designation qualifications of USG Corporation products; UL designations; code research reports; and NER listings.

Test Conditions and Certification

Fire and sound tested assemblies listed in this *Selector* are based on characteristics, properties, and performance of materials and systems obtained under controlled test conditions as set forth in the appropriate ASTM Standard in effect at the time of test. These listings are short summaries to serve as a compilation and guide of construction assemblies available in the selection process. For complete information on construction details and component products used in these systems, refer to the individual Folder reference.

USG Corporation will provide test certification for published fire, sound and structural data covering systems designed and constructed according to its published specifications. Tests are conducted on Company products assembled to meet performance requirements of established test procedures specified by various agencies. System performance following any substitution of materials or compromise in assembly design cannot be certified and may result in failure under critical conditions.

Sound tests are conducted under ideal laboratory conditions according to ASTM procedures. Comparable field performance

depends on building design and careful attention to detailing and workmanship.

Certain sound tests, conducted in accordance with ASTM methods, measured sound transmission of 11 frequencies. These data have been retained in this selector to serve as a guide to the designer. Based on experience, the STC values are very close to those obtained for the assembly under current methods at 16 frequencies.

Sound ratings shown for steel-framed partitions apply to systems constructed with 25-ga. steel studs, unless otherwise noted. Heavier gauge studs are more rigid and may not provide the same sound ratings.




Abbreviations

In the test analyses following, abbreviation of "est" indicates estimated; abbreviation N/A indicates not applicable or not available. Estimated fire ratings are based on an engineering evaluation by qualified professionals. Other abbreviations are shown below.

acoust	acoustical	ht	height
alt	alternate	insul	insulating or insulation
alum	aluminum	int	interior
appl	applied	lamin	laminated
ASTM	Amer. Soc. Testing Materials	lbr	lumber
att	attached	lightwt	lightweight
atten	attenuation	lim	limiting
betw	between	max	maximum
bd	board	met	metal
blks	blankets	min	minimal or minimum
cem	cement	nom	nominal
chan	channel	noncomb	noncombustible
clg	ceiling	o.c.	on center
col	column	opp	opposite
com	common	oz	ounce
conc	concrete	partn	partition
contin	continuous	perim	perimeter
conv	conventional	plywd	plywood
corrug	corrugated	prot	protected or protection
cr	cold rolled	qtr	quarter
ctd	coated	recom	recommended
dbl	double	reg	regular
Des	Design	rel	relocatable
ea	each	resil	resilient
exp	exposed	run	runner(s)
extending	extending	SAFB	sound attenuation fire blankets
fin	finish or finished	sep	separate
fireprfg	fireproofing	separ	separated
fixt	fixture	stag	staggered
fir	floor	stl	steel
freq	frequency	subflr	subfloor
ft	foot or feet	susp	suspended or suspension
fur	furring	syst	system
ga	gauge	thickn	thickness
GA	Gypsum Association	unfin	unfinished
galv	galvanized	USG	USG Corporation
hex	hexagonal	vert	vertically
horiz	horizontally	wd	wood
hr	hour	wt	weight (lb./sq. ft.)

Details

In details, color background designates materials indicated below:

	Sound-deadening material; column or beam fireproofing.
	RC-1™ Resilient Channels.
	Furring channels.

Laboratories

Fire
 UL—Underwriters Laboratories Inc.
 OSU—Ohio State University
 U of C—University of California
 WHI—Warnock Hersey International
 CEG—Consulting Engineers Group
 GA—Gypsum Assoc. Fire Design Manual GA-600

Sound
 TL—Riverbank Acoustical Laboratories
 G & H—Geiger & Hamme
 CK—Cedar Knolls Acoust. Laboratories
 BBN—Bolt, Beranek and Newman
 KAL—Kodaras Acoustical Laboratories
 SA—Shiner & Assoc.

Sound rating

STC sound transmission class per ASTM test procedures
CSTC ceiling sound transmission class — also known as ceiling attenuation class (CAS) when tested in accordance with ASTM E1414

IIC impact insulation class per ASTM test procedures
MTC music/machinery transmission class

Index to Products and Systems

Product or System Folder Reference

A
Accessories, structural & trim.....SA-920, SA-927
Access floor systems.....SA-1027
Acoustical ceiling finish, spray.....SA-933
Acoustical insulation.....SA-707
Acoustical sealant.....SA-927
Acoustical tiles, panels, baffles.....SA-905
Acrylic ceilings, walls.....SA-906
Adhesives, ceramic tile.....SA-932
Adhesives, drywall.....SA-927
Air distribution for access floors.....SA-1027
Aluminum foil-backed boards.....SA-920, SA-927
Area separation walls.....SA-925
ASTM Specs.....page 35, SA-100

B
Back-blocking system.....SA-924
Basecoat plaster.....SA-920
Brick veneer curtain walls.....SA-700
Building insulation.....SA-707

C
Caged beam construction.....SA-920, SA-923
Cavity shaft walls.....SA-926
Ceiling air diffusers.....SA-904, SA-906
Ceiling grid systems.....SA-904, SA-905, SA-906
Ceiling heat components.....SA-920
Ceiling panels, tile.....SA-905, SA-906
Ceiling suspension systems.....SA-904, SA-905, SA-906
Ceiling texture finishes.....SA-933
Cement board, exterior.....SA-700
Cement board, interior.....SA-932
Ceramic tile base.....SA-700, SA-932
Channels, furring & lathing.....SA-920, SA-927
Channels, resilient.....SA-920, SA-927
Chase walls.....SA-920, SA-923, SA-924, SA-926
Column fireproofing.....SA-707, SA-920, SA-923
Concrete fasteners.....SA-927
Concrete finishing compound.....SA-920, SA-927
Control joints.....SA-920, SA-927
Corner, casing beads.....SA-920, SA-927
Curtain wall insulation.....SA-707
Curtain walls.....SA-700, SA-923
Curved walls.....SA-923

D
Dry-set mortar.....SA-932
Drywall ceilings.....SA-923, SA-924
Drywall fireproofing.....SA-923
Drywall furring systems.....SA-923
Drywall partitions, laminated.....SA-923, SA-924, SA-926
Drywall partitions, steel framed.....SA-923, SA-925, SA-926
Drywall partitions, wood-framed.....SA-924, SA-925

E
EIFS.....SA-700
Electrical systems for access floors.....SA-1027
Epoxy matrix exterior finish.....SA-700
Exterior curtain walls.....SA-700, SA-923
Exterior insulation & finish system.....SA-700
Exterior walls and ceilings.....SA-700, SA-905, SA-923, SA-924

Product or System Folder Reference

F
Fabric banners.....SA-906
Fabric-covered acoustical panels.....SA-906
Fabric-covered walls.....SA-906
Federal Specs.....page 35, SA-100
Finishing lime.....SA-920
Fireproofing, mineral felt.....SA-707
Fire safety systems.....SA-707
Firestop system, walls & floors.....SA-727
Fire-wall systems.....SA-925
Flame-resistant blankets.....SA-707
Floating angle construction.....SA-920, SA-924
Floor protector, cement board.....SA-932
Foil-back gypsum panels, lath.....SA-920, SA-927
Foil-back insulation.....SA-707

G
Gauging plasters.....SA-920
Glass-fiber acoustical panels.....SA-905
Grout, ceramic tile.....SA-700, SA-932
Gypsum ceiling board.....SA-927
Gypsum coreboard.....SA-927
Gypsum lath ceilings.....SA-920
Gypsum lath partitions.....SA-920, SA-926
Gypsum liner panels.....SA-927
Gypsum panels.....SA-927, SA-928
Gypsum plaster bases.....SA-920

H
Hearth extension, cement board.....SA-932

I
Insulating blankets, mats.....SA-707
Insulating furring.....SA-920, SA-923
Insulating gypsum panels, lath.....SA-920, SA-927
Insulation, fire-containment.....SA-707
Integrated ceilings.....SA-906
Island trim.....SA-904

J
Joint treatment.....SA-927

L
Lathing accessories, clips.....SA-920
Light fixture protection.....SA-905
Lime, hydrated.....SA-920
Linear metal ceilings.....SA-905

M
Made-to-order ceilings.....SA-907
Metal-faced ceilings.....SA-905, SA-906
Metal lath & accessories.....SA-920
Metal stud partitions.....SA-920, SA-923, SA-925, SA-926
Metal trim.....SA-920, SA-927
Mineral felt fireproofing.....SA-707
Mineral fiber insulation.....SA-707
Mini-brick exterior finish.....SA-700
Mirrored ceiling panels.....SA-905
Mouldings, ceiling.....SA-904, SA-905
Mouldings, drywall.....SA-927, SA-928
MTC sound rating.....SA-923

References listed are *principal source* of information in this Architectural Technical Literature series. Repetition or additional data may occur in other folders.

Product or System Folder Reference

P
Party walls.....SA-920, SA-923, SA-924, SA-925
Pedestals, access floor.....SA-1027
Plaster bases.....SA-920
Plaster ceilings.....SA-920
Plaster furring systems.....SA-920
Plaster partitions, steel-framed.....SA-920
Plaster partitions, wood-framed.....SA-920
Plastering lime.....SA-920
Plasters—basecoat, finish.....SA-920
Plastic trim.....SA-904, SA-920, SA-927, SA-928
Poke-thru insulation.....SA-707, SA-727
Prefinished gypsum panels.....SA-928
Primer.....SA-927, SA-933

R
Radiant heat ceiling components.....SA-920
Relocatable walls.....SA-1020
Resilient ceilings.....SA-920, SA-924
Resilient partitions.....SA-920, SA-924, SA-925

S
Safing insulation.....SA-707
Screws.....SA-920, SA-927
Security walls.....SA-920, SA-1119
Shaft wall partitions.....SA-926
Sheathing, gypsum.....SA-927
Skylights, modular.....SA-906
Smoke-stop insulation.....SA-707
Soffits, drywall.....SA-923
Soil-resistant ceilings.....SA-905
Sound attenuation fire blankets.....SA-707
Sound control partitions.....SA-923
Sound control floor/ceilings.....SA-924
Special order ceilings.....SA-907
Stucco.....SA-700, SA-920

T
Tape, reinforcing.....SA-920, SA-927
Texture finishes.....SA-933
Textured ceilings.....SA-905, SA-933
Thin-brick exterior finish.....SA-700
Through-penetrations.....SA-707, SA-727
Tile accessories.....SA-932
Tile backer board.....SA-932
Trim accessories.....SA-920, SA-927

U
Underlayment, floor & counter top.....SA-932
Understructures, access floor.....SA-1027

V
Veneer finishes.....SA-920
Veneer plaster systems.....SA-920
Vent shaft construction.....SA-926
Vinyl-faced gypsum panels.....SA-928
Vinyl trim.....SA-920, SA-927, SA-928

W
Wallboard & accessories.....SA-927
Wallcovering, vinyl.....SA-928
Wall furring systems.....SA-920, SA-922, SA-923
Wall panels, prefinished.....SA-928
Wall shield, cement board.....SA-932
Wood-frame partitions, ceilings.....SA-920, SA-924, SA-925

This Index lists all UL Designs that involve the products of the United States Gypsum Company and USG Interiors, Inc. UL Design numbers appear with their corresponding references, the UL Fire Resistance Directory or the *Construction Selector* section letter and

number. For example, UL Design D215 is referenced to B-72, that is, test no. 72 in Section B of the *Construction Selector*; UL Design D216 is not in the *Construction Selector* but is described in the UL Directory.

SA-100/USG Corporation 5

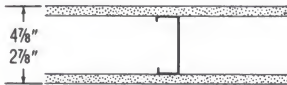


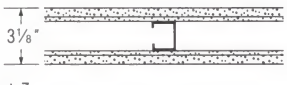
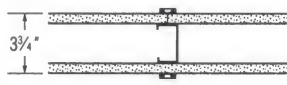
Selector Guide to Sound-Rated Partitions⁽¹⁾

STC range	60-69	55-59	50-54	45-49
Drywall or Veneer Plaster	22, 23, 26, 27, 28 32, 35, 46, 47, 61, 84, 86	7, 10, 13, 15, 16, 17, 18, 19, 22, 23, 24, 29, 42, 43, 46, 61, 81, 85, 96, 97, 100, 101, 104, 105	1, 6, 8, 9, 11, 13, 17, 19, 21, 32, 35, 40, 43, 50, 53, 54, 61, 62, 70, 78, 92, 94, 96, 101, 105, 106, 109	1, 3, 4, 5, 12, 18, 30, 36, 37, 51, 52, 61, 64, 65, 68, 78, 79, 91, 92, 96, 103, 106

(1) Assemblies are identified by numbers in right outside margin, 1 to 109, pages 6 through 15.

Fire-rated construction		Acoustical performance		Folder reference
Detail & physical data	Description & test no.	STC	Description & test no.	

Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster Steel Stud Partitions (Non-Load Bearing) – 1-Hour Rating

	wt. 6	Steel Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core—358ST25 studs 24" o.c.—single layer panels vert appl & screw att—joints stag & fin—perimeter caulked— UL Des U465 —based on panels horiz appl— GA-WP-1200 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	40 49 51	USG-860808 Based on 3" SAFB in cavity panels— SA-870717 Based on FIRECODE C core panels and 3" SAFB 25" wide, creased to fit cavity— TL-90-166	SA-923	1
	wt. 5	Steel Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core—158ST25 studs 24" o.c.—single layer panels vert appl & screw att 12" o.c.—joints fin—perimeter caulked— U of C 7-31-62	38	USG-860809	SA-923	2
	wt. 8	Steel Stud—veneer plaster only (not drywall) $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base & veneer finish—212ST25 studs—base screw att—joints stag & taped— $\frac{1}{4}$ " veneer finish—perimeter caulked—stud spacing at 16" recommended— GA-WP-1240	45	Based on 3 $\frac{3}{8}$ " studs 24" o.c. with 1" SAFB in cavity— CK-664-1	SA-920	3
	wt. 5	Steel Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—212ST25 studs 24" o.c.—single layer panels ea side appl vert & screw att—1 $\frac{1}{2}$ " THERMAFIBER SAFB—joints fin—perimeter caulked— UL Des U448 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	45 48	TL-69-42 Based on 3 $\frac{3}{8}$ " studs & 2" SAFB— SA-800422	SA-923	4
	wt. 6	Steel Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core—212ST25 studs 24" o.c.—1 $\frac{1}{2}$ " THERMAFIBER SAFB—panels apply horiz & screw att—joints opp—horiz joints fin— CEG 8-11-83 —rating also applies to assembly with $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, panels and joints fin— CEG 5-9-84 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	47	SA-831001	SA-923	5
	wt. 7	Steel Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—212ST25 studs 24" o.c.—single layer panels one side appl vert & screw att—1 $\frac{1}{2}$ " THERMAFIBER SAFB—2 layers opp side—panels appl vert & screw att—joints stag & fin—perimeter caulked—est. fire rating based on T-3362-OSU—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	50 41	SA-800504 Based on same construction without SAFB— TL-69-148	SA-923	6
	wt. 9	Steel Stud—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, ea side—158ST25 studs 24" o.c.—panels appl vert & screw att—joints stag & fin—perimeter caulked— U of C 9-21-64 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	55	Based on SHEETROCK brand gypsum panels, FIRECODE C core & 1 $\frac{1}{2}$ " SAFB— USG-840824	SA-923	7
	wt. 7	Steel Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—212ST25 studs 24" o.c.—2 layers—base layer $\frac{1}{2}$ " SHEETROCK brand gypsum panels, screw att— $\frac{1}{2}$ " face layer screw att—joints fin—perimeter caulked— GA-WP-1090 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	53	Based on 1 $\frac{1}{2}$ " SAFB & 2 $\frac{1}{2}$ " studs— CK-684-13	SA-923	8
		Alternate based on 212ST25 studs & $\frac{1}{2}$ " face layer laminated— GA-WP-1051	53	Based on 2" glass fiber— NGC-2318	SA-923	9
		Alternate based on 212ST25 studs & face layer of $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core— GA-WP-1015	55	Based on 1 $\frac{1}{2}$ " SAFB— CK-684-14	SA-923	10
		Alternate based on 212ST25 studs & base layer of $\frac{1}{2}$ " SHEETROCK brand gypsum panels— GA-WP-1053	54	Based on 2" glass fiber— CK-8104.02	SA-923	11
	wt. 5	Steel stud— $\frac{1}{2}$ " TEXTONE vinyl-faced gypsum panels, FIRECODE core—2 $\frac{1}{2}$ " steel studs 24" o.c. with battens att to each stud with 1 $\frac{1}{2}$ " Type S screw—aluminum battens over tracks— UL Des U405	45	G&H NG-146FT Based on 3" insulation	SA-928	12
		Resil Stud Drywall— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—362SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw att to studs—single-layer gypsum panels screw att to studs & RC-1 chan—panels appl vert with joints stag—joints fin—perimeter caulked— UL Des U451	50 54 55 55 54	RAL-TL-87-156 (42 MTC) Based on $\frac{1}{2}$ " thick panels— RAL-TL-83-216 (47 MTC) Based on $\frac{1}{2}$ " IMPERIAL FIRECODE gypsum base & creased 3" SAFB— SA-860635 Based on $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core, & on 25" wide creased SAFB— SA-850415 Based on $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE core— USG-850415	SA-920 SA-923	13

Fire-rated construction

Detail & physical data

Description & test no.

Acoustical performance

STC Description & test no.

Folder

reference

Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)

Steel Stud Partitions (Non-Load Bearing) – 1-Hour Rating

	<p>Steel Stud—$\frac{5}{8}$" SHEETROCK brand gypsum panels, ULTRACODE core—$1\frac{1}{2}$" studs 24" o.c.—panels vert appl & screw att with $1\frac{1}{2}$" Type S screws 8" o.c. perm, 12" o.c. field—joints stag & fin—UL Des U496</p>			SA-923	14
	<p>Resil Stud Drywall—$\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—60SJ20 studs 24" o.c.—5" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—single-layer gypsum panels screw-att to studs & RC-1 chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U451</p>	56 56	<p>RAL-TL-87-139 (48 MTC) Based on $\frac{3}{8}$" thick SHEETROCK brand gypsum panels, FIRECODE C core—RAL-TL-84-141 (50 MTC)</p>	SA-923	15

Steel Stud Partition (Non-Load Bearing) – 1½-Hour Rating

	<p>Resil Stud Drywall—$\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 24" o.c.—5" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—2 layers gypsum panels screw-att to studs, 1 layer screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U452</p>	58 59	<p>RAL-TL-83-215 (52 MTC) 8" wall with 60SJ20 studs & 5" SAFB—RAL-TL-84-140 (54 MTC)</p>	SA-923	16
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Steel Stud Partitions (Non-Load Bearing) – 2-Hour Rating

	<p>Steel Stud—2 layers $\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—158ST25 studs 24" o.c.—panels appl vert & joints stag—base layer screw att—face layer strip lamin or screw att—joints fin—perim caulked—UL Des U412—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	50 55 52 54	<p>Based on $3\frac{3}{4}$" stud assembly without SAFB—USG-840817 Based on $3\frac{3}{4}$" studs and $1\frac{1}{2}$" SAFB—SA-800421 Based on lamin, face layer, $1\frac{1}{2}$" SAFB and $2\frac{1}{2}$" studs—SA-860932 Based on $2\frac{1}{2}$" studs, screw-att face layer and $1\frac{1}{2}$" SAFB—CK-654-40</p>	SA-923	17
	<p>Steel Stud—2 layers $\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE core, plain or vinyl faced vert appl ea side—212ST25 studs 24" o.c.—base layers screw att—face layer lamin or screw att—joints stag & fin or unfin—perimeter caulked—UL Des U411—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	48 56	<p>Based on $3\frac{3}{4}$" studs and $\frac{3}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—BBN-770408 Based on $3\frac{3}{4}$" studs and 3" SAFB—USG-840818</p>	SA-923	18
	<p>Steel Stud—2 layers $\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE core, ea side—212ST25 studs 24" o.c.—panels appl horiz & joints stag—base and face layers screw att—joints fin—perimeter caulked—GA-WP-1548—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	51 56	<p>Based on $2\frac{1}{2}$" SAFB in cavity—GA-WP-1548 Based on 2" SAFB in cavity—USG-840819</p>	SA-923	19
	<p>Steel stud—2 layers $\frac{5}{8}$" TEXTONE vinyl-faced gypsum panels, FIRECODE core—212ST25 steel studs 24" o.c.—base layer att with 1" Type S screw, face layer att with $1\frac{1}{4}$" Type S screw 12" o.c. at floor & ceiling runner and laminated with adhesive—UL Des U411</p>			SA-928	20
	<p>Steel stud—$\frac{5}{8}$" SHEETROCK brand gypsum Panels, ULTRACODE Core, ea. side—min. 312ST25 studs 24" o.c.—3" THERMAFIBER SAFB—panels vert appl & screw att 8" o.c. perm, 12" o.c. field—joints stag & fin—perimeter caulked—UL Des U491</p>	50	<p>USG-910617</p>	SA-923	21
	<p>Resil Stud Drywall—$\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—single-layer gypsum panels screw-att to studs, 2-layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U453</p>	60 59	<p>Based on $\frac{1}{2}$" thick panels, 60SJ20 studs, 5" SAFB—RAL-TL-87-140 (54 MTC) Based on $\frac{3}{4}$" thick panels, 60SJ20 studs, 5" SAFB—RAL-TL-84-136 (54 MTC)</p>	SA-923	22
	<p>Resil Stud Drywall—$\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core—212ST25 studs 24" o.c.—min. 1" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—2 layers gypsum panels screw-att to chan, 2 layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U454</p>	60 61 57 63 62	<p>RAL-TL-87-154 (54 MTC) Based on $\frac{3}{8}$" thick panels—RAL-TL-83-214 (57 MTC) Based on $\frac{1}{2}$" thick panels—USG-871207 Based on 60SJ20 studs & 5" SAFB—RAL-TL-87-141 (59 MTC) Based on $\frac{3}{8}$" thick panels, 60SJ20 studs & 5" SAFB—RAL-TL-84-139 (58 MTC)</p>	SA-923	23

Steel Stud Partitions (Non-Load Bearing) – 3-Hour Rating

	<p>Steel Stud—3 layers $\frac{5}{8}$" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—158ST25 studs 24" o.c.—base layers appl vert—face layer appl horiz—panels screw-att with joints stag & fin—perimeter caulked—rating based on assembly with or without sound atten fire blankets—UL Des U435—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	59	<p>Based on assembly with $1\frac{1}{2}$" SAFB in cavity—SA-830112</p>	SA-920 SA-923	24
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Fire-rated construction Detail & physical data	Description & test no.	Acoustical performance		Folder reference
		STC	Description & test no.	

Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)

Steel Stud Partitions (Non-Load Bearing) – 3-Hour Rating

	Steel stud—2 layers 1/2" SHEETROCK brand gypsum panels, ULTRACODE core, ea side—158ST25 studs 24" o.c.—base layer appl vert and att with 1 1/2" Type S screws 24" o.c., face layer att vert or horiz with 2 1/2" Type S screws 12" o.c.—att horiz joints with Type G screws midway betw framing (24" o.c.)—joints fin—perimeter caulked—UL Des U435			SA-923	25

	Resil Stud Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—35SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—3 layers gypsum panels screw-att to studs, 2 layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U455	61	RAL-TL-87-153 (56 MTC)	SA-923	26
		62	Based on 3/8" thick panels—RAL-TL-83-213 (59 MTC)		
		64	Based on 60SJ20 studs & 5" SAFB—RAL-TL-87-142 (59 MTC)		
		63	Based on 3/8" thick panels, 60SJ20 studs & 5" SAFB—RAL-TL-84-138 (59 MTC)		
		65	Based on 3/8" thick panels, 60SJ20 studs, 5" SAFB, acoustical sealant bead between panels and studs, dabs 8" o.c. between panel layers on stud side—RAL-TL-84-150 (60 MTC)		

	Resil Stud Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—3 layers gypsum panels screw-att to studs, 3 layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U455	63	RAL-TL-87-152 (58 MTC)	SA-923	27
		65	60SJ20 studs, 5" SAFB RAL-TL-87-143 (61 MTC)		

Steel Stud Partitions (Non-Load Bearing) – 4-Hour Rating

	Steel Stud—4 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—158ST25 studs 24" o.c.—base layers appl vert—face layer appl horiz—panels screw att with joints stag & fin—perimeter caulked—UL Des U435—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	62	Based on assembly with 1 1/2" SAFB in cavity—SA-830113	SA-920 SA-923	28

	Steel Stud—2 layers 1/2" SHEETROCK brand gypsum panels, ULTRACODE core, ea side—212ST25 studs 24" o.c.—2" THERMAFIBER SAFB—base layer appl vert, panels vert, joints stag & screw att 24" o.c.—face layer appl vert or horiz, screw att 12" o.c.—att along horiz joints with Type G screws betw framing (24" o.c.)—joints fin—perimeter caulked—UL Des U490	56	SA-910907	SA-923	29

Steel Stud Partition (Load Bearing) – 45-Minute Rating

	1/2" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—panels appl vert & att with 1" Type S-12 screws 12" o.c.—joints fin—load bearing up to 100% allowable stud axial load—UL Des U425—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	47	Based on 3" SAFB in cavity—SA-861001	SA-923	30


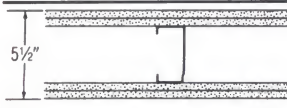
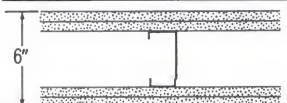
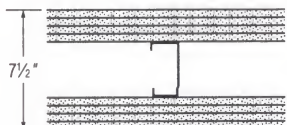
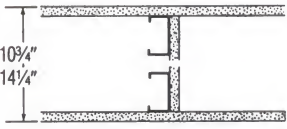
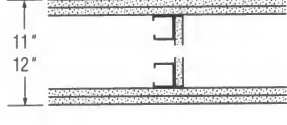
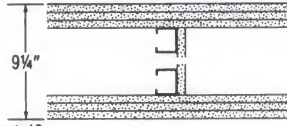
Steel Stud Partitions (Load Bearing) – 1-Hour Rating

	Load-bearing Steel Stud—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—panels appl vert & att with 1" Type S-12 screws 12" o.c.—joints stag & fin—load bearing up to 100% allowable stud axial load—UL Des U425—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	40 41	USG-810519 Based on 2" SAFB in cavity—USG-810518	SA-923	31

	Dbl layer 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—RC-1 chan one side spaced 24" o.c. screw-att to studs—panels appl vert with joints stag—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1 1/2" Type S-12 screws 12" o.c.—joints fin—load bearing up to 100% allowable stud axial load—UL Des U440—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	61 51	Based on 35SJ16 studs, 3/8" thick panels, lateral bracing and 3" SAFB—SA-830628 Based on 35SJ16 studs and lateral bracing—SA-840715	SA-923	32

	Steel Stud—1/2" DUROCK cement board—base layer 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—min. 35SJ20 studs 16" o.c.—3" THERMAFIBER SAFB—board att with 1 1/2" DUROCK screws 8" o.c.—joints taped—UL Des U473—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A		SA-932	33

	1/2" SHEETROCK brand gypsum panels, FIRECODE C core—base layer 1/2" DUROCK cement board—board att with 1 1/2" DUROCK screws 24" o.c.—min. 35SJ20 studs 16" o.c.—3" THERMAFIBER SAFB—UL Des U485—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A		SA-932	34

Fire-rated construction		Acoustical performance		Folder
Detail & physical data	Description & test no.	STC	Description & test no.	reference
Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)				
Steel Stud Partitions (Load Bearing) – 1-Hour Rating				
	Dbl layer 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—RC-1 chan one side spaced 24" o.c. screw-att to studs—panels appl vert with joints stag—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1 1/2" Type S-12 screws 12" o.c.—joints fin—load bearing up to 100% allowable stud axial—UL Des U440—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	61	Based on 35SJ16 studs, 5/8" thick panels, lateral bracing and 3" SAFB—SA-830628	SA-923 35
		51	Based on 35SJ16 studs and lateral bracing—SA-840715	
wt. 10				
Steel Stud Partition (Load Bearing) – 1 1/2-Hour Rating				
	Load-bearing Steel Stud—Dbl layer 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—panels appl vert—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1 1/2" Type S-12 screws 12" o.c.—joints fin—load bearing up to 100% allowable axial load—UL Des U425	49	Based on 2" SAFB—USG-811009	SA-923 36
		49	Based on 2" SAFB and 60SJ20 studs—USG-810940	
wt. 9				
Steel Stud Partitions (Load Bearing) – 2-Hour Rating				
	Dbl layer 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—panels appl vert—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1 1/2" Type S-12 screws 12" o.c.—joints fin—load bearing up to 80% allowable stud axial load—UL Des U425	48	Based on 2" SAFB in cavity—USG-811006	SA-923 37
		49	Based on 2" SAFB and 60SJ20 stud—USG-810937	
wt. 10				
	Alternate based on three layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—load bearing up to 100% allowable stud axial load—UL Des U425			SA-923 38
Steel Stud Partition (Load Bearing) – 3-Hour Rating				
	Four layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—35SJ20 studs 24" o.c.—base layers appl vert with joints stag—base panels att with Type S-12 screws 48" o.c.—face layer appl vert or horiz with 2 3/8" Type S-12 screws 12" o.c. and 1 1/2" Type G screws in panels—load bearing up to 100% allowable stud axial load—UL Des U426—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A		SA-923 39
wt. 18				
Steel Stud Double Wall Chases – 1-Hour Rating				
	Steel Stud Chase Wall—5/8" SHEETROCK brand gypsum panels, FIRECODE core, ea side—158ST25 studs 24" o.c. in 2 rows spaced 6 1/2" apart—5/8" gypsum panel gussets or steel run braces spanning chase screw-att to studs—panels applied vert & screw att—joints stag & fin—UL Des U420	52	Based on 3 1/2" insulation one side—TL-76-155	SA-923 40
	Steel Stud—5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—fireproofed steel truss—212ST25 studs 24" o.c. in 2 rows spaced 8" apart—5/8" gypsum panel gussets spanning chase att to stud at qtr & ctr points—panels appl vert & screw att—joints stag & fin—includes 3-hr. truss—UL Des U805	N/A		SA-923 41
Steel Stud Double Wall Chases – 2-Hour Rating				
	Steel Stud Chase Wall—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—158ST25 studs 24" o.c. in 2 rows spaced 5 1/2" apart—5/8" gypsum panel gussets spanning chase att to studs at qtr points—panels appl vert & screw att—joints stag & fin—perimeter caulked—est. fire rating based on UL Des U412	55	SA-860907	SA-923 42
	Steel Stud Chase Wall—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE core, ea side—158ST25 studs 24" o.c. in 2 rows spaced 6 1/2" apart—5/8" gypsum panel gussets or stl run braces spanning chase screw-att to studs—panels appl vert & screw att—joints stag & fin—UL Des U420	52 57	TL-76-162 Based on 3 1/2" insulation one side—TL-76-156	SA-923 43
wt. 12				
Steel Stud Double Wall Chases – 3-Hour Rating				
	Steel Stud—3 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—1 1/2" studs 24" o.c. in 2 rows spaced 3" apart—steel truss member—gypsum panel gussets or stl run braces spanning chase screw-att to studs—panels appl vert & screw att—joints stag & fin—2 hr. rating applies with 2 layers panels ea side—1 hr. rating applies with single layer 5/8" panels ea side—UL Des U436	N/A		SA-923 44
wt. 13				

Fire-rated construction

Detail & physical data

Description & test no.

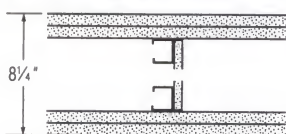
Acoustical performance

STC Description & test no.

Folder reference

Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)

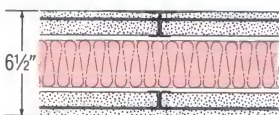
Steel/Stud Double Wall Chases – 3-Hour Rating



Steel stud chase wall—2 layers 5/8" SHEETROCK brand gypsum panels, ULTRACODE core, ea side—1 1/2" studs 24" o.c. in two rows spaced 2" apart—steel truss member—gypsum panel gussets or stl run braces spanning chase screw-att to studs—base layer app vert and att with 1 1/4" Type S screws 24" o.c., face layer att vert or horiz with 2 1/4" Type S screws 12" o.c.—att horiz joints with Type G screws midway betw framing (24" o.c.)—joints stag & fin—**UL Des U436**

SA-923

45



Double Wall Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—two rows of 1" SHEETROCK brand gypsum liner panels spaced 3 1/2" apart and screw-att to steel angle runners—liner panels set betw 1" H-splines 24" o.c.—3" THERMAFIBER SAFB in cavity—face panels screw-att to H-splines—perim caulked—joints fin—**UL Des U441**

57

TL-83-211 (MTC 57)

SA-923

46

60

TL-83-313 (MTC 57)

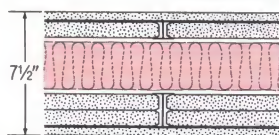
Based on vertical cntrline acoust sealant beads

62

TL-83-232 (MTC 60)

Based on liner panels spaced 6 1/2", 6" SAFB in cavity, and vertical cntrline acoust sealant beads

65

Based on liner panels spaced 12 1/2", 12" SAFB in cavity, and vertical cntrline acoust sealant beads—**TL-83-229** (MTC 62)

Double Wall Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—one row of single-layer, one row of double-layer 1" SHEETROCK brand gypsum liner panels spaced 3 1/2" apart and screw-att to steel angle runners—single-layer liner panels set betw 1" H-splines 24" o.c., double-layer liner panels set betw 2" H-splines 24" o.c.—3" THERMAFIBER SAFB in cavity—face panels screw-att to H-splines—perim caulked—joints fin—**UL Des U441**

63

TL-83-222 (MTC 58)

SA-923

47

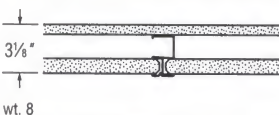
66

Based on liner panels spaced 6 1/2", 6" SAFB in cavity, and vertical cntrline acoust sealant beads—**TL-83-231** (MTC 61)

69

Based on liner panels spaced 12 1/2", 12" SAFB in cavity, and vertical cntrline acoust sealant beads—**TL-83-226** (MTC 62)

Shaft Wall System – 1-Hour Rating



Cavity Shaft Wall Gypsum Drywall—3/8" SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—panels appl to side opp liner panels & screw att—joints fin—**UL Des U469**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

N/A

SA-926

48

Shaft Wall Systems – 2-Hour Rating



Cavity Shaft Wall Cement Board/Gypsum Drywall—3/8" DUROCK cement board—3/8" SHEETROCK brand gypsum panels, FIRECODE C core—1" SHEETROCK brand gypsum liner panels set betw USG steel 20-ga. min C-H studs 24" o.c.—1 1/2" THERMAFIBER SAFB—cement board screw att with 1 1/2" DUROCK screws & laminated to gypsum panel with 4" strip ceramic tile mastic applied with 1/2" notched trowel midway betw studs—joints fin—**UL Des U459**

N/A

SA-700

49

SA-926



Cavity Shaft Wall—1" SHEETROCK brand gypsum liner panels, set betw 4" USG steel C-H studs 24" o.c. one side—3/8" SHEETROCK brand gypsum panels, ULTRACODE Core, other side—3" THERMAFIBER SAFB—panels vert appl & screw att 8" o.c. perim, 12" o.c. field—joints stag & fin—perimeter caulked—**UL Des U492**

52

SA-910913

SA-923

50

wt. 8



Cavity Shaft Wall Gypsum Drywall—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand gypsum liner panels set betw USG 25-ga. steel C-H studs 24" o.c.—panels appl vert to side opp liner panels & screw att—joints fin—fire-tested both sides—**UL Des U438**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

39

USG-750302

SA-926

51

Based on 1" SAFB in cavity—**BBN-750706**

wt. 9



Cavity Shaft Wall Gypsum Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—single layer panels ea side appl vert & screw att—joints stag on opp sides & fin—fire-tested both sides—**UL Des U467**—rating also applies with 1/2" SHEETROCK brand gypsum panels, water-resistant, FIRECODE C core—**U of C 6-23-75**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

47

Based on 1" SAFB in cavity—**BBN-750704**

SA-926

52

SA-925

wt. 9



Cavity Area Separation Wall—1/2" SHEETROCK brand gypsum panels, water-resistant, FIRECODE C core—1" SHEETROCK brand gypsum liner panels set betw USG 25-ga. steel C-H studs 24" o.c.—RC-1 chan 24" o.c. screw att to side opp liner panels—1 1/2" THERMAFIBER SAFB—single layer panels ea side appl vert & screw att—joints stag on opp sides & fin—perim caulked—est. fire rating based on U of C 6-23-75—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

50

Based on 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—**BBN-750411**

SA-925

53

wt. 10



Cavity Shaft Wall Gypsum Drywall—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand gypsum liner panels set betw USG 25-ga. steel C-H studs 24" o.c.—RC-1 chan spaced 24" o.c.—1 1/2" THERMAFIBER SAFB—panels & RC-1 chan screw-att to side opp liner panels—base layer appl horiz—face layer appl vert—joints fin—est. fire rating based on U of C 2-8-72 and U of C 6-23-75—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

51

BBN-750412

SA-926

54

wt. 10

Fire-rated construction

Detail & physical data

Description & test no.

Acoustical performance

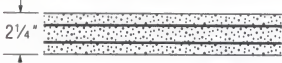

STC

Description & test no.



Folder
reference

Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)

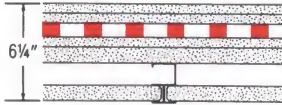
Shaft Wall Systems – 2-Hour Rating

	Vent Shaft Gypsum Drywall—1 1/2" USG steel runners—24-ga. steel angles—1/2" SHEETROCK brand gypsum panels, FIRECODE core—1" SHEETROCK brand gypsum liner panel— UL Des U505	N/A	SA-926	55
	2" Laminated Solid—2 layers 1" SHEETROCK brand gypsum liner panels laminated—2"x1" 25-ga. channels back to back & welded 24" o.c.—2 layers, 1/2" SHEETROCK brand gypsum panels alt with 1/4" Type S screws 12" o.c.—joints stag— OSU T-4481	N/A	N/A	56

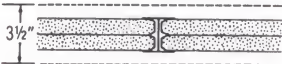
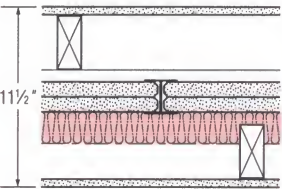
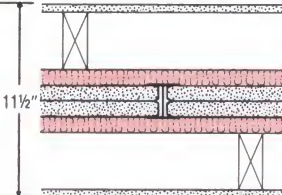
Shaft Wall Systems – 3-Hour Rating

	Cavity Shaft Wall Gypsum Drywall—3 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—panels screw att to side opp liner panels with joints stag—base & face layers appl vert—mid layer apply horiz—joints fin—est. fire rating based on U of C 2-16-72—rating also applies with IMPERIAL FIRECODE C base and veneer finish surface	N/A	SA-926	57
	Shaft Wall—2 layers 1" SHEETROCK brand gypsum liner panels laminated—2"x1" 25-ga. channels back to back & welded 24" o.c.—face & base layer of 1/2" SHEETROCK brand gypsum panels—furring channel 24" o.c.—layer joints stag— OSU T-4423 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	N/A	58

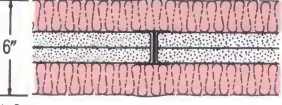
Shaft Wall System – 4-Hour Rating

	Cavity Shaft Wall Gypsum Drywall—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, face side—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—1" liner panels & 1/2" gypsum panel core screw att to studs—horiz met fur chan 24" o.c.—face side panels screw att to fur chan—panels appl vert with joints stag—joints fin—est. fire rating based on U of C 5-24-74—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	SA-926	59
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Solid Area Separation Wall Systems – 2-Hour Rating

	Solid Area Separation Wall—two 1" SHEETROCK brand gypsum liner panels betw USG one-piece steel H-studs 24" o.c.—min. 1/2" air space both sides separating liner panels from any adjacent construction— UL Des U336	N/A	SA-925	60	
	Basic design #59 plus 2x4 wd studs 16" o.c. each side on 2x4 plates min. 1/2" from liner panels—2" THERMAFIBER SAFB in one cavity—gypsum panels att with 1 1/2" Type W screws 12" o.c.—joints stag & fin.—perm caulked— UL Des U336	54 46 58 57 60 45 54 57	TL-88-348 Based on 2x4s and no SAFB— TL-88-353 Based on 2x4s and 2" SAFB on both sides— TL-88-347 Based on 2x4s and 3" SAFB one side— TL-88-351 Based on 2x4s and 3" SAFB on both sides— TL-88-350 Based on 2x3s, 1/2" gypsum panels, no SAFB— BBN-730104 Based on 2x3s, 1/2" gypsum panels, 2" SAFB one side— BBN-730103 Based on 2x3s, 1/2" gypsum panels, 2" SAFB both sides— BBN-730102	SA-925	61
	Basic design #59 plus 2x4 wd studs 16" o.c. each side on 2x4 plates min. 1/2" from liner panels—1" THERMAFIBER SAFB stapled to both sides of liner panels—1/2" SHEETROCK brand gypsum panels, facing ea side— UL Des U336	53 50	TL-88-346 Based on 1" SAFB one side— TL-88-344	SA-925	62

Solid Area Separation Wall System – 3-Hour Rating

	Solid Area Separation Wall—two 1" SHEETROCK brand gypsum liner panels set betw USG one-piece steel H-studs 24" o.c.—2" THERMAFIBER SAFB ea side—blks appl horiz with joints stag and staple-att to liner panels—separates any construction both sides— WHI-495-0393/0394	N/A	SA-925	63
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Relocatable Walls – No Rating

	Rel ULTRAWALL Partn—concealed "T" studs both sides 24" o.c.—1/2" x 24" bevel edge ULTRAWALL gypsum panels—1 1/2" THERMAFIBER SAFB—joints stag & unfin—perimeter caulked—N/A	48	TL-70-251	SA-1020	64
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Fire-rated construction

Detail & physical data

Description & test no.

Acoustical performance

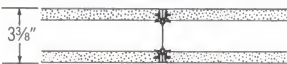
STC

Description & test no.

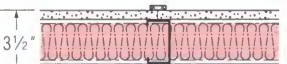
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Non-Combustible Wall Systems – Gypsum Drywall or Veneer Plaster (continued)

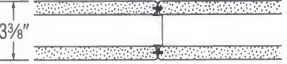
Relocatable Walls – No Rating

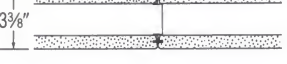
	Systems ULTRAWALL Partn—aluminum H-studs 24" o.c.—steel floor	42	USG-850509 Based on same construction with 1 1/2" THERMAFIBER SAFB— USG-850510	SA-1020	65
	runner—ARL-300 ceiling runner—3/4" x 24" bevel edge ULTRAWALL gypsum panels—perimeter gaskets—joints finished with vinyl trim—N/A	46			

Relocatable Walls – 1-Hour Rating


	1/2" SHEETROCK brand gypsum panels, FIRECODE C core—alum battens 24" o.c.—212ST25 steel studs 24" o.c.—2" THERMAFIBER insulation— UL Des U406			N/A	66
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	1/2" SHEETROCK brand gypsum panels, FIRECODE C core—alum battens 24" o.c.—212ST25 steel studs 24" o.c.—2" THERMAFIBER insulation— U of C 7-27-70			N/A	67
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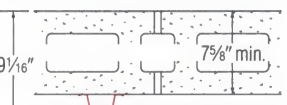
	Rel ULTRAWALL Partn—concealed "H" studs 24" or 30" o.c.—3/4" x 24" or 30" bevel edge ULTRAWALL gypsum panels—joints unfin—perim gaskets—based on 24" panels— U of C 8-18-67 —based on 30" panels— U of C 7-23-69	42 47	Based on 24" panels— BBN-701008 Based on 24" panels and 1" THERMAFIBER SAFB in cavity— BBN-701216	SA-1020	68

	Rel ULTRAWALL Partn—concealed "H" studs 24" o.c.—stl flr run—painted stl clg run with int tabs—3/4" x 24" bevel edge ULTRAWALL gypsum panels—joints unfin— WHI-120/121 —based on alum clg run— WHI-495-0225/0226	N/A		SA-1020	69
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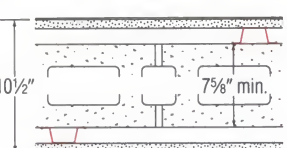
Relocatable Wall – 2-Hour Rating

	Rel ULTRAWALL Partn—concealed "H" studs 24" o.c.—1 1/2" THERMAFIBER SAFB—3/4" x 24" bevel edge panels one side—double layer opp side with 3/4" Z-runners betw layers—joints unfin—perim caulked—painted— UL Des U416	50	TL-70-198	SA-1020	70
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Furred Masonry – 3-Hour Rating


	Concrete Blk (UL Classified)—3/4" SHEETROCK brand gypsum panels, FIRECODE C core, or 1/2" IMPERIAL FIRECODE C gypsum base & veneer finish—3/4" deep met fur chan 24" o.c.—base att with 1" drywall screws 8" o.c. at butt joints, 12" o.c. in field—3/4" veneer finish—joints taped— UL Des U914	N/A		SA-920	71
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Furred Masonry – 4-Hour Rating

	Concrete Blk (UL Classified)—3/4" SHEETROCK brand gypsum panels, FIRECODE C core, or 1/2" IMPERIAL FIRECODE C gypsum base & veneer finish—3/4" deep met fur chan 24" o.c.—base att with 1" drywall screws 8" o.c. at butt joints, 12" o.c. in field—3/4" veneer finish—joints taped— UL Des U910	N/A		SA-920	72
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Non-Combustible Wall Systems – Conventional Lath & Plaster


Steel Stud Partitions – 1-Hour Rating


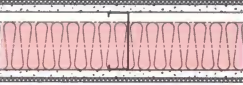
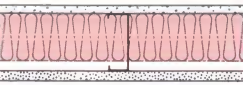

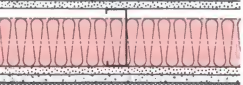
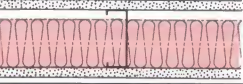
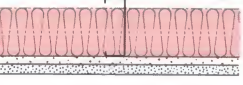
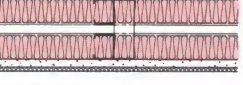
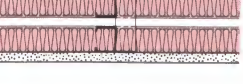
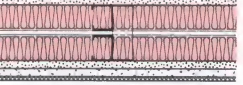

	2" Solid Metal Lath & Plaster—3/4" cr chan 16" o.c.—2.5 lb. metal lath wire-tied to chan—100:2-100:2 gypsum sand plaster— MLA T-129 OSU	37	NBS-523 F45	SA-920	73
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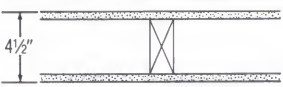
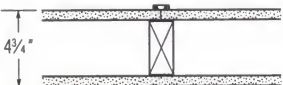
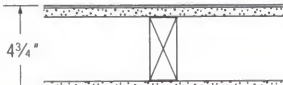
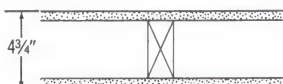

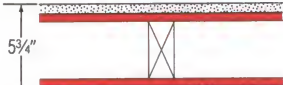

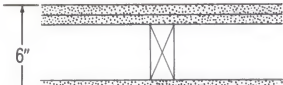
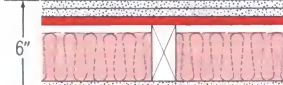


	3/4" ROCKLATH Type X base, both sides, 8" o.c.—212ST20 steel studs 16" o.c.—1" THERMAFIBER insulation—3/4" plaster base coat, 3/4" plaster finish coat— UL Des U488			N/A	74
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Steel Stud Partitions – 2-Hour Rating

	2 1/2" Solid Metal Lath & Plaster—3/4" cr chan 16" o.c.—3.4 lb. metal lath wire-tied to chan—1:2-1:3 gypsum perlite plaster— GA WP 1930			N/A	75
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	Steel Stud—2 1/2" studs 16" o.c.—3/4" ROCKLATH base, both sides, 8" o.c.—3.4-lb. self-furring diamond mesh lath, both sides, 8" o.c.—3/4" gypsum sand plaster, both sides— UL U484	N/A		SA-920	76
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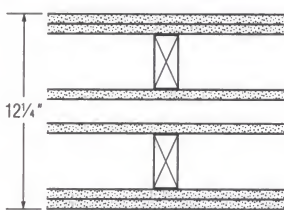
Fire-rated construction		Acoustical performance		Folder reference
Detail & physical data	Description & test no.	STC	Description & test no.	
Non-Combustible Wall Systems – Conventional Lath & Plaster (continued)				
Security Wall – 2-Hour Rating				
	STRUCTOCORE 18-ga. steel panels att to 18-ga. steel perimeter channels— 3/8" min. coverage STRUCTO-BASE gypsum plaster sanded at 2:1 by weight in two coats—IMPERIAL finish plaster applied 1/8" thick— UL Des U476	N/A		SA-1119 77
Non-Combustible Wall Systems – Cement Board				
Steel Stud Partitions (Non-Load Bearing) – 1-Hour Rating				
	Steel Stud—1/2" DUROCK cement panel and 1/4" ceramic tile— 358ST25 studs 16" o.c.—3" THERMAFIBER SAFB—board att with 1 1/2" DUROCK screws 8" o.c.—joint taped—alt. design 3/8" SHEETROCK brand gypsum panels, FIRECODE core, one side— UL Des U442	48 50	SA-840321 Based on alt. design— SA-840313	SA-932 78
wt. 14				
	Steel Stud—1/2" DUROCK cement panel—358ST25 studs 16" o.c.—3" THERMAFIBER SAFB—board att with 1 1/2" DUROCK screws 8" o.c.— joints taped—3/8" SHEETROCK brand gypsum panels, FIRECODE C core— UL Des U457	47	Based on 3/8" SHEETROCK brand gypsum panels, FIRECODE core— USG-840222	SA-932 79
wt. 7				
Steel Stud Partitions (Non-Load Bearing) – 2-Hour Rating				
	Steel Stud—1/2" DUROCK cement panel—base layer 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, one side, double-layer other side—358ST25 studs 16" o.c.—3" THERMAFIBER SAFB— board att with 1 1/2" DUROCK screws 8" o.c.—joints taped— UL Des U474	N/A		SA-932 80
	Steel Stud—2 layer—1/2" DUROCK cement panel and 1/4" ceramic tile—base layer 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—358ST25 studs 16" o.c.—3" THERMAFIBER SAFB —board att with 1 1/2" DUROCK screws 8" o.c.—joints taped—alt. design 2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, one side— UL Des U443	58 56	SA-851028 Based on alt. design— SA-851016	SA-932 81
wt. 18				
Steel Stud Partitions (Load Bearing) – 1-Hour Rating				
	Steel Stud—1/2" DUROCK cement panel—base layer 1/2" SHEETROCK brand gypsum panels, FIRECODE core—min. 35SJ20 studs 16" o.c.— 3" THERMAFIBER SAFB—board att with 1 1/2" DUROCK screws 8" o.c.— joints taped— UL Des U473	N/A		SA-932 82
	3/8" SHEETROCK brand gypsum panels, FIRECODE core—base layer 1/2" DUROCK cement panel—board att with 1 1/2" DUROCK screws 24" o.c. —min. 35SJ20 studs 16" o.c.—3" THERMAFIBER SAFB— UL Des U485	N/A		SA-932 83
Chase Walls – 1-Hour Rating				
	Plumbing Chase Wall—1/2" DUROCK cement panel and 1/4" ceramic tile—158ST25 studs 16" o.c. in two rows with horiz braces—1 1/2" THERMAFIBER SAFB—board att with 1 1/2" DUROCK screws 8" o.c.— joints taped—alt. design 3/8" SHEETROCK brand gypsum panels, FIRECODE core, one side— UL Des U445	61 60	Based on 3" SAFB & 3/8" studs— SA-840524 Based on 3" SAFB & alt. design— SA-840515	SA-932 84
wt. 17				
	Plumbing Chase Wall—1/2" DUROCK cement panel—158ST25 studs 16" o.c. in two rows with horiz braces—1 1/2" THERMAFIBER SAFB in both stud cavities—board att with 1 1/2" DUROCK screws 8" o.c.—joints taped—3/8" SHEETROCK brand gypsum panels, FIRECODE C core— UL Des U458	57	Based on 358ST25 studs and 3" SAFB— SA-840505	SA-932 85
wt. 7				
Chase Wall – 2-Hour Rating				
	Plumbing Chase Wall—2 layer—1/2" DUROCK cement panel and 1/4" ceramic tile—base layer 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—158ST25 studs 16" o.c. in two rows with horiz braces— 1 1/2" THERMAFIBER SAFB—board att with 1 1/2" DUROCK screws 8" o.c.—joints taped—alt. design 2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, one side— UL Des U444	65 62	SA-851112 Based on alt. design— SA-851102	SA-932 86
wt. 18				
Shaft Wall – 2-Hour Rating				
	Cavity Shaft Wall Cement Board/Gypsum Drywall—1/2" DUROCK cement panel—3/8" SHEETROCK brand gypsum panels, FIRECODE core—1" SHEETROCK brand gypsum liner panels set betw USG steel 20-ga. min C-H studs 24" o.c.—1 1/2" THERMAFIBER SAFB—cement board screw att with 1 1/2" DUROCK screws & laminated to gypsum panel with 4" strip ceramic tile mastic applied with 1/2" notched trowel midway betw studs—joints fin— UL Des U459	N/A		SA-700 SA-926 SA-932 87

Fire-rated construction	Acoustical performance	STC	Description & test no.	Folder reference
Detail & physical data	Description & test no.			
Wood Framed Wall Systems – Gypsum Drywall or Veneer Plaster				
Wood Stud Partition (Load Bearing) – 45-Minute Rating				
 wt. 6	Wd Stud—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c.—panels nailed 7" o.c.—1 1/2" cem ctd nails—joints fin— UL Des U317	N/A		SA-924 88
Wood Stud Partitions (Load Bearing) – 1-Hour Rating				
 wt. 7	Wood stud—1/2" TEXTONE vinyl-faced gypsum panels, FIRECODE core—2x4 16" o.c.—panels nailed 7" o.c. with 6d cement-coated 1 1/2" fasteners— UL Des U305			89
 wt. 7	Wd Stud—1/2" IMPERIAL FIRECODE C gypsum base att direct & veneer finish only (not drywall)—2x4 16" o.c.—base nailed 7" o.c. 6d nails—1/2" veneer finish—joints taped— U of C 10-27-64	N/A		SA-920 90
 wt. 7	Wd Stud—1/2" SHEETROCK brand gypsum panels, FIRECODE core, or SHEETROCK brand gypsum panels, water-resistant, FIRECODE core—2x4 16" or 24" o.c.—panels nailed 7" o.c.—1 1/2" cem ctd nails—joints exp or fin—perim caulked— UL Des U305 based on 16" stud spacing— UL Des U314 based on 24" stud spacing with joints fin	34 37 46	Based on 16" stud spacing and screws 6" o.c.— USG-30-FT-G&H Based on 24" stud spacing— USG-860807 Based on 24" stud spacing & 3" SAFB— BBN-700725	SA-924 91
 wt. 8	Wd Stud—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c.—2 layer—base layer 1/2" SHEETROCK brand gypsum panels, appl vert with 4d ctd nails—1/2" panel face layer strip lamin plus 6d nails 6" o.c. to top & bottom plates—joints stag & fin—perimeter caulked— GA-WP-3341	45 53	TL-69-52 Based on 1/2" lamin. face layers & 1 1/2" SAFB— USG-221-ST-G-H	SA-924 92
 wt. 7	Wd Stud—resil partition—1/2" SHEETROCK brand gypsum panels, FIRECODE core—2x4 16" o.c.—RC-1 chan both sides spaced horiz 24" o.c.—panels att with 1" Type S screws—joints fin—perimeter caulked— T-1396-0SU	41	Based on RC-1 chan one side only— USG-860802	SA-924 93
 wt. 7	Wd Stud—resil partition 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" or 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c.—panels att with 1" Type S screws—opp side direct att with 1 1/2" Type W screws—joints fin—perimeter caulked— UL Des U311	50	BBN-760903	SA-924 94
Wood Stud Partitions (Load Bearing) – 2-Hour Rating				
 wt. 12	Wd Stud—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE core, or SHEETROCK brand gypsum panels, water-resistant, FIRECODE core, ea side—2x4 16" o.c.—base layer att with 1 1/2" nails 6" o.c.—face layer att with 2 3/4" nails 8" o.c.—joints fin— UL Des U301	N/A		SA-924 95
 wt. 12	Wd Stud—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—2x4 16" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c.—resil side screw att—opp side nail att—both base layers appl vert and face layers appl horiz—resil layers perim caulked—joints fin— UL Des U334	59 49	TL-67-239 Based on same construction without SAFB— TL-67-212	SA-924 96
 wt. 13	Wd Stud—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—2x4 16" o.c.—2" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c.—resil side screw att—opp side nail att—both base layers appl vert and face layers appl horiz—resil layers perim caulked—joints fin— UL Des U334	58 52	USG-810219 Based on same assembly (non-fire rated) without SAFB— USG-810218	SA-924 97
Double Stud Chase Wall (Load Bearing) – 1-Hour Rating				
 wt. 12	Stag Wd Stud—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c. on 2x6 com plate—panels att with 6d ctd nails or 1 1/2" screws 7" o.c.—perim caulked—joints fin— UL Des U340	N/A		SA-920 SA-924 98

Fire-rated construction		Acoustical performance		Folder reference
Detail & physical data	Description & test no.	STC	Description & test no.	

Wood Framed Wall Systems – Gypsum Drywall or Veneer Plaster (continued)

Double Stud Chase Walls (Load Bearing) – 2-Hour Rating

	Wd stud—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE core, outside, both sides—5/8" SHEETROCK brand gypsum panels, FIRECODE core, inside, both sides—2x4 wd studs 24" o.c.— UL Des U342			SA-924	99
	Alternate based on 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, both outside double layer & inside single layer— GA WP 3810	57	3 1/2" glass fiber both walls— TL-73-224	N/A	100
	Alternate based on 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, outside double layers <i>only</i> — GA WP 3812	57	3 1/2" glass fiber both walls—based on TL-73-224	N/A	101

Double Stud Chase Walls (Non-Load Bearing) – 1-Hour Rating

	Stag Wd Stud—5/8" SHEETROCK brand gypsum panels, FIRECODE core—2x3 non-load bearing studs 16" o.c.—2x3 plates 1" apart—panels nailed 7" o.c.—3" THERMAFIBER SAFB one side—joints fin—perim caulked—est. fire rating based on UL Des U305	54	Based on screws or nails 7" o.c.— TL-77-149	SA-924	102
	Stag Wd Stud—5/8" SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c. on 2x6 com plate—panels att with 6d ctd nails 7" o.c.—2" THERMAFIBER SAFB one side—perim caulked—joints fin—est. fire rating based on UL Des U305	45	Based on FIRECODE core panels— TL-69-213	SA-924	103
	Wd Stud—base layer 1/2" SHEETROCK brand gypsum panels—face layer 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, laminated to base layer—2x4 wd studs 16" o.c.— GA WP 5510	55	Based on 1 1/2" THERMAFIBER SAFB in cavity— G & H BW-32ST	N/A	104

Double Stud Chase Walls (Non-Load Bearing) – 2-Hour Rating

	Wd Stud—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE core—2 rows 2x4 16" o.c. on sep plates 1" apart—base layer att with 6d ctd nails 24" o.c.—face layer att with 8d ctd nails 8" o.c.—stagger vert joints 16" o.c.—perim caulked—joints fin— GA-WP-3820	51 56 58	TL-69-214 Based on 3 1/2" thick insulation in one cavity— USG-710120 GA-NGC-3056	SA-924	105
	Stag Wd Stud—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c. on 2x6 com plate—base layer att with 6d ctd nails 24" o.c.—face layer att with 8d ctd nails 8" o.c.—stagger vert joints 16" o.c.—perim caulked—joints fin— GA-WP-3910	47 51	TL-69-211 GA-NGC-2377	SA-924	106
	Wd Stud—base layer 1/2" SHEETROCK brand gypsum panels—face layer 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, laminated to base layer—2x4 wd studs 16" o.c.— GA WP 5510				

Wood Framed Wall Systems – Conventional Lath & Plaster

Wood Stud Partition (Load Bearing) – 1-Hour Rating

	Wd stud—3/8" ROCKLATH base, both sides, 4" o.c.—2x4 16" o.c.—1/2" 1:2 gypsum-sand plaster— GA WP 3430			N/A	107
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Wood Framed Wall Systems – Cement Board

Wood Stud Wall (Load Bearing) – 1-Hour Rating

	Wd Stud—1/2" DUROCK cement panel and 1/4" ceramic tile—2x4 16" o.c.—3 1/2" THERMAFIBER SAFB—board att with 1 1/2" DUROCK screws or 1 1/2" galv nails 8" o.c.—joints taped—alt. design 5/8" SHEETROCK brand gypsum panels, FIRECODE core, one side— UL Des U329	37 40	USG-840404 Based on alt. design— USG-840314	SA-932	108

Double Stud Wall (Load Bearing) – 2-Hour Rating

	Plumbing Chase Wall—1/2" DUROCK cement panel and 1/4" ceramic tile—2 rows 2x4 16" o.c. on 2x8 com plate—3 1/2" THERMAFIBER SAFB both cavities—board att with 1 1/2" DUROCK screws or 1 1/2" galv. nails 8" o.c.—joints taped— load bearing up to 50% allowable design load—WHI-495-0505 & 0508	50	SA-840523	SA-932	109
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Fire-rated construction

Detail & Physical data

Description & test no.

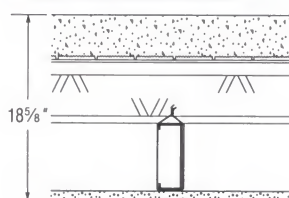
Acoustical performance

CSTC IIC Description & test no.

Folder
reference

Non-Combustible Ceiling Systems – Gypsum Drywall or Veneer Plaster

Steel Bar Joist Framing – 1-Hour Rating



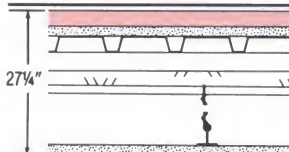
clg. wt. 2

1/2" SHEETROCK brand gypsum panels, FIRECODE C core—panels screw att 12" o.c. rt. angl. to 358ST25 steel studs 24" o.c.—studs wire tied to open web steel joists 24" o.c.—joints fin—2 1/2" concrete on riblath over joist—**GA FC 1105**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

N/A

1

Steel Bar Joist Framing – 1 1/2-Hour Rating



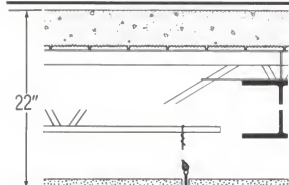
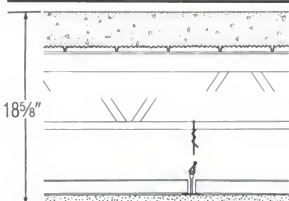
clg. wt. 4

1/2" SHEETROCK brand gypsum panels, FIRECODE C core—susp grid with main run 4" o.c. and cross tees 2" o.c.—gypsum panels screw-att below grid—joints stag and fin—min 1" roof insul and 3/8" gypsum bd on steel deck over bar joists—1-hr. rating based on assembly with 1/2" thick panels—**UL Des P510**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

N/A

SA-923
SA-920

2



1/2" or 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—gypsum panels screw-att below grid with 1" Type S screws 12" o.c.—joints stag & fin—2 1/2" conc on riblath over bar joist—**UL Des G528**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

N/A

SA-905

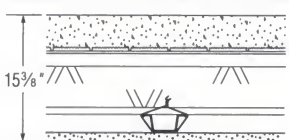
3

1/2" x 2" x 4" Gypsum Lay-in Panels, FIRECODE C Core, in Susp Exp Grid Sys—clg interrupted—2 1/2" conc on riblath over bar joist—**UL Des G259**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

N/A

SA-905

4



clg. wt. 2

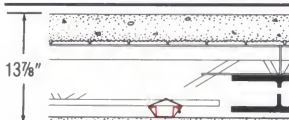
1/2" SHEETROCK brand gypsum panels, FIRECODE C core—panels screw att 12" o.c. rt. angl. to met fur chan 24" o.c.—chan wire tied to open web steel joists 24" o.c.—joints fin—2" concrete on riblath or steel deck over joist—**UL Des G502**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

N/A

N/A

5

Steel Bar Joist Framing – 2-Hour Rating



clg. wt. 3

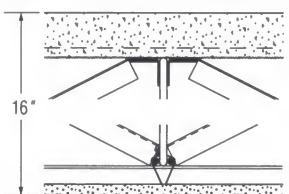
1/2" SHEETROCK brand gypsum panels, FIRECODE C core—furred or susp—met fur chan 24" o.c.—panels att with interrupted clg. & 1" sound atten 1" Type S screws 12" o.c.—joints exp or fin—2 1/2" conc on riblath or corrug stl deck over bar joist—includes 2-hr. unrestrained beam—**UL Des G515**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

54

G&H 189-FT

SA-923
SA-920

6

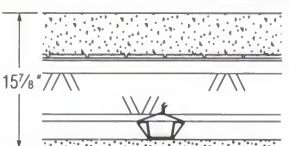


clg. wt. 2

1/2" SHEETROCK brand gypsum panels, FIRECODE C core—panels screw att 8" o.c. rt. angl. to met fur chan 48" o.c.—chan wire tied to open web steel joists 12" o.c.—**UL Des G503**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

N/A

7



1/2" SHEETROCK brand gypsum panels, FIRECODE C core—panels screw att 12" o.c. rt. angl. to met fur chan 24" o.c.—chan wire tied to open web steel joists 24" o.c.—joints fin—2 1/2" concrete on riblath or steel deck over joist—**GA FC 2030**—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

53

NGC-4075

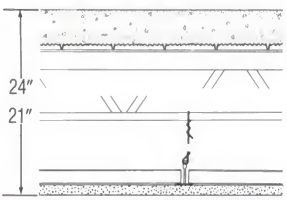
N/A

8

Fire-rated construction		Acoustical performance		Folder reference
Detail & Physical data	Description & test no.	CSTC	IIC	

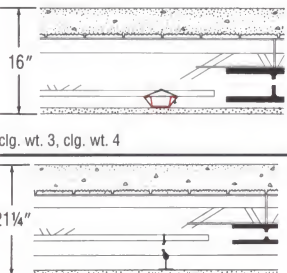
Non-Combustible Ceiling Systems – Gypsum Drywall or Veneer Plaster (continued)

Steel Bar Joist Framing – 2-Hour Rating (continued)

	<p>½" or ¾" SHEETROCK brand gypsum panels, FIRECODE C core—gypsum panels screw-att below grid with 1" Type S screws 12" o.c.—joints exp or fin—2½" conc on riblath or steel deck over bar joist—includes 2-hr and 3-hr unrestrained beam—3 hr. rating with ¾" panels & 3" thick concrete—UL Des G523—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	N/A	SA-905	9
	<p>½" or ¾" SHEETROCK brand gypsum panels, FIRECODE C core—gypsum panels screw-att below grid with 1½" Type S screws 8" o.c.—joints stag & fin—2½" conc on riblath over bar joist—includes 1½-hr. unrestrained beam—UL Des G526—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	N/A	SA-905	10
	<p>½" x 24" x 24" Gypsum lay-in Panels, FIRECODE C core, on Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" AURATONE FIRECODE panels or 1½" THERMAFIBER min wool bd—2½" conc deck on riblath over bar joist—includes 2-hr. unrestrained beam—UL Des G222—fire rating 1½ hr. with ½" x 24" x 48" panels; includes 1½-hr. unrestrained beam—UL Des G259—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	N/A	SA-905	11

clg. wt. 2

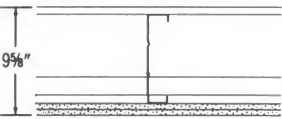
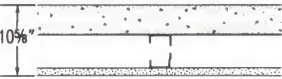
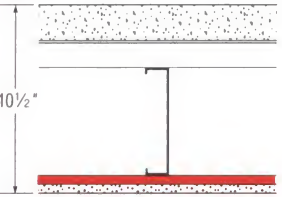
Steel Bar Joist Framing – 3-Hour Rating

	<p>¾" SHEETROCK brand gypsum panels, FIRECODE C core—met fur chan 24" o.c.—panels att with 1" Type S screws 12" o.c.—joints exp or fin—2½" conc on corrugated steel deck or riblath over bar joist—includes 3-hr. unrestrained beam—UL Des G512</p>	N/A	SA-923	12
	<p>½" SHEETROCK brand gypsum panels, FIRECODE C core—susp grid with main run 4' o.c. and cross tees 2' o.c.—gypsum panels screw-att below grid—joints fin—3¼" conc on riblath over bar joist—rating also applies with ¾" panels and 2¼" conc slab—includes 3-hr. unrestrained beam—UL Des G259—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	N/A	SA-923	13

clg. wt. 3, clg. wt. 4

clg. wt. 3

Steel C-Joist Framing – 1-Hour Rating


 <p>9 1/2"</p> <p>clg. wt. 3</p>	1/2" SHEETROCK brand gypsum panels, FIRECODE C core—725SJ18 steel joists 24" o.c.—dbl layer gypsum panel clg and 3/4" T&G plywd flr att to joists with Type S-12 screws—dbl layer gypsum panels around beam—joints exp—includes unrestrained beam— UL Des L524 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	39 43 56 60	Based on 95SJ16 joists— USG-760105 Based on 95SJ16 joists and 3" SAFB*— USG-760310 Based on 95SJ16 joists and carpet pad— USG-760106 Based on 95SJ16 joists and carpet & pad with 3" SAFB*— USG-760405	SA-923	14
 <p>10"</p> <p>clg. wt. 3</p>	3/4" SHEETROCK brand gypsum panels, FIRECODE C core—75SJ18 steel joists 24" o.c.—2 1/2" conc flr on corrug steel deck—gypsum panel ceiling att to joists with 1" Type S-12 screws 12" o.c.—joints fin—est. fire rating based on witnessed laboratory test—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	45 70	Based on RC-1 resil chan 24" o.c.— KAL-443536 Based on carpet & pad— KAL-443535	SA-923	15
 <p>10 1/2"</p> <p>clg. wt. 2</p>	Resil ceiling—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—panels screw att 12" o.c. rt. angl. to RC-1 chan 24" o.c.—RC-1 chan screw att to 60SJ18 steel joists 24" o.c.—joints fin—2" concrete on steel deck over joist— GA FC 1145 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A		N/A	16

clg. wt. 3

clg. wt. 3

clg. wt. 2

Steel C-Joist Framing – 1½-Hour Rating

	Resil ceiling— $\frac{3}{4}$ " SHEETROCK brand gypsum panels, FIRECODE C core— $\frac{3}{4}$ " T & G plywd flr att to joists with Type S-12 screws 24" o.c.—95SJ16 steel joists 24" o.c.—dbl layer gypsum panel clg att to RC-1 chan screw att to joist 16" o.c.—base panels att with 1" Type S screws 24" o.c.—face panels att with $1\frac{1}{2}$ " Type G screws 8" o.c. at butt joints, $1\frac{1}{2}$ " Type S screws 12" o.c. in field—joints fin— UL Des L527 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base veneer surface finish	48	USG-771101 Based on carpet & pad— SA-781110	SA-923	17
	clg. wt. 5	51			

clg. wt. 5

*RC-1 Resilient Channel may be used in place of metal furring channel.

Fire-rated construction

Detail & Physical data

Description & test no.

Acoustical performance

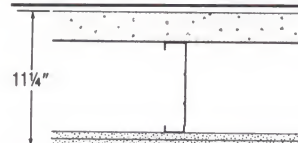
CSTC IIC

Description & test no.

Folder reference

Non-Combustible Ceiling Systems – Gypsum Drywall or Veneer Plaster (continued)

Steel C-Joist Framing – 2-Hour Rating



clg. wt. 5

5/8" SHEETROCK brand gypsum panels, FIRECODE C core—725SJ18 steel joists 24" o.c.—2 1/2" conc flr over corrug steel deck—dbl layer gypsum panel ceiling—base panels att with 1" Type S-12 screws 12" o.c.—face panels att with 1 1/4" Type S-12 screws 12" o.c.—joints stag and fin—est. fire rating based on witnessed laboratory test.—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

44

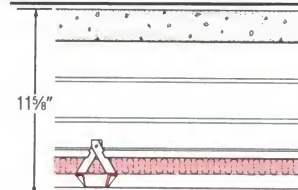
73

KAL-443533

Based on carpet & pad—
KAL-443680
Based on RC-1 resil chan.
24" o.c.—KAL-443534

SA-923

18



clg. wt. 3

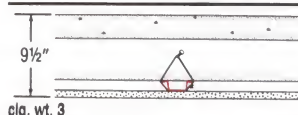
5/8" SHEETROCK brand gypsum panels, FIRECODE C core—725SJ18 steel joists 24" o.c.—2" conc flr on corrug steel deck—met fur chan 24" o.c. clip-att to joist—1" THERMAFIBER insul laid over chan below joist—panels screw-att to chan 12" o.c.—joints fin—UL Des G533—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer surface finish

N/A

SA-923

19

Precast Concrete – 2-Hour Rating



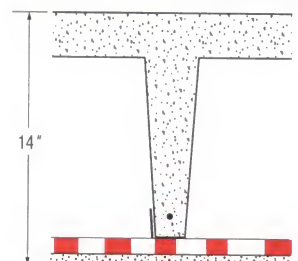
clg. wt. 3

5/8" SHEETROCK brand gypsum panels, FIRECODE C core—met fur chan 24" o.c.—panels att with 1" Type S screws—joints fin—2" prestressed reg or lightwt conc units with 6" deep stems 48" o.c.—UL Des J502—UL Des J503—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

N/A

SA-923

20



clg. wt. 3

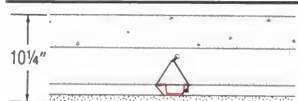
5/8" SHEETROCK brand gypsum panels, FIRECODE C core—panels screw att 8" o.c. rt. angl. to met fur chan 24" o.c.—joints fin—chan screw att to hanger straps on 2 1/2" precast conc joists 35" o.c.—joist leg 10" deep—GA FC 2120—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface

N/A

N/A

21

Precast Concrete – 3-Hour Rating



clg. wt. 3

5/8" SHEETROCK brand gypsum panels, FIRECODE C core—met fur chan 24" o.c.—panels att with 1" Type S screws—joints fin—prestressed 2 1/2" reg or 2 1/2" lightwt conc units with 6" deep stems 48" o.c.—UL Des J502—UL Des J503—UL Des J504

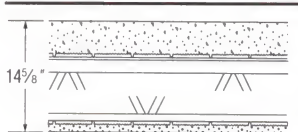
N/A

SA-920

22

Non-Combustible Ceiling Systems – Conventional Lath & Plaster

Steel Bar Joist Framing – 1-Hour Rating



clg. wt. 4

5/8" RED TOP gypsum plaster, sanded 1:2-1:3—applied over 3/4" riblath wire tied 5" o.c. to open web steel joists 24" o.c.—2" concrete on riblath over joist—GA FC 1180

N/A

N/A

23

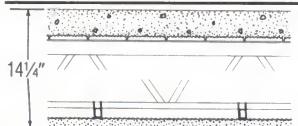
Alternate based on 5/8" RED TOP gypsum plaster-vermiculite or 3/4" RED TOP wood fiber plaster—GA FC 2160

N/A

N/A

24

Steel Bar Joist Framing – 2-Hour Rating



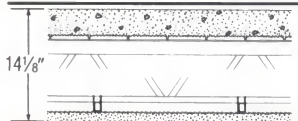
3/4" cold rolled channel furred or suspended—3.4# diamond mesh lath & 3/4" 100:2-100:3 gypsum sand plaster—2 1/2" concrete on riblath or 28-ga. corrugated steel deck over bar joist—BMS-92, R4024-12

N/A

SA-920

25

Steel Bar Joist Framing – 2 1/2-Hour Rating



3/4" cold rolled channel furred or suspended—3.4# diamond mesh lath & 3/4" 100:1-100:1 gypsum wood fiber sand plaster—2 1/2" concrete on riblath or 28-ga. corrugated steel deck over bar joist—UL Des R5429-1, R4024-12

N/A

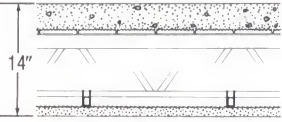
SA-920

26

Fire-rated construction		Acoustical performance		Folder reference
Detail & Physical data	Description & test no.	CSTC	IIC	

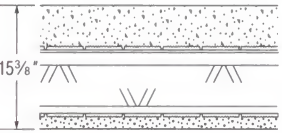
Non-Combustible Ceiling Systems – Conventional Lath & Plaster (continued)

Steel Bar Joist Framing – 3-Hour Rating

	3/4" cold rolled channel furred or suspended—3.4# diamond mesh lath & 1/2" neat wood fiber gypsum plaster—2 1/2" concrete on riblath or 28-ga. corrugated steel deck over bar joist— BMS-92, R4024-12	N/A		SA-920	27
	Alternate based on 3/8" 1:2-1:3 RED TOP gypsum plaster-vermiculite or 3/4" RED TOP wood fiber plaster neat— GA FC 3140	N/A		N/A	28

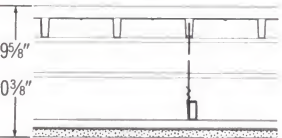
clg. wt. 4

Steel Bar Joist Framing – 4-Hour Rating

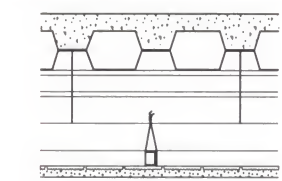
	1/2" 1:2-1:3 RED TOP gypsum plaster-vermiculite—applied over 3/8" riblath wire tied 5" o.c. to open web steel joists 24" o.c.—2 1/2" concrete on riblath over joist— BMS 92/43	N/A		N/A	29
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clg. wt. 5

Rib-Type Steel Roof Deck – 1 1/2-Hour Rating

	Suspended 3.4# diamond mesh metal lath & 3/4" 100:2-100:3 gypsum-sand plaster—rib type steel roof deck with 1" wood-fiber insulation— NBS-57	N/A		SA-920	30
	Suspended 3.4# diamond mesh metal lath & 1" 100:2 gypsum-sand plaster—rib type steel roof deck with 1 1/2" wood-fiber insulation— NBS-58	N/A		SA-920	31

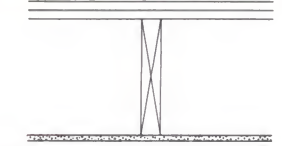
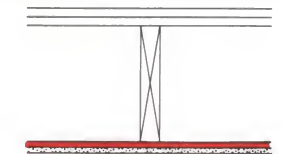
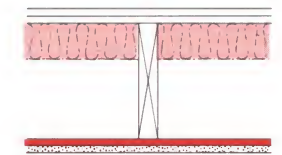
Concrete Cellular Steel Deck – 3-Hour Rating

	3/8" STRUCTO-LITE plaster Type R—appl over 3.4# diamond lath wire tied 5" o.c. to 3/4" cold rolled chan 12" o.c. wire tied to 1 1/2" cold rolled chan 48" o.c.—chan assembly suspended 16" from 2" conc. slab over cellular steel deck— UL Des A403	N/A		N/A	32
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clg. wt. 2.5

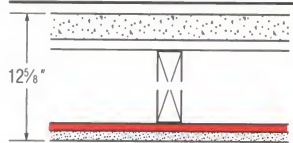
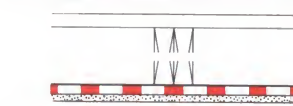
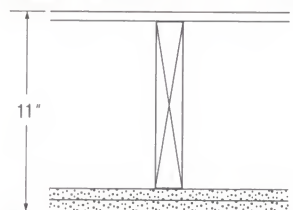
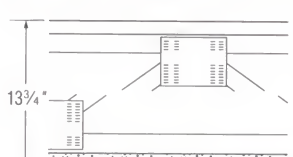
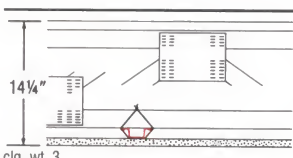
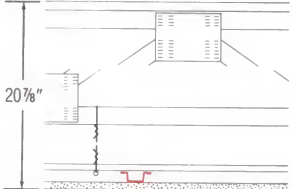
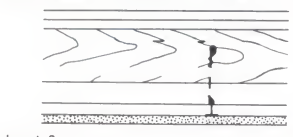
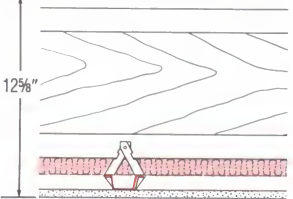
Wood Framed Ceiling Systems – Gypsum Drywall or Veneer Plaster

Floor/Ceiling – 1-Hour Rating

	3/8" or 3/4" SHEETROCK brand gypsum panels, FIRECODE core, ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—panels att with 6d nails 6" o.c.—joints fin— UL Des L501 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	38	32	Based on 1 1/4" nom wd flr— CK-6412-7 Based on 1 1/4" nom wd flr, 44-oz carpet & 40-oz pad atop flooring— CK-6412-8	SA-924	33
	3/8" or 3/4" SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—panels att with 5d cem ctd nails 6" o.c.—joints fin— UL Des L512	N/A			SA-924	34
	Resil ceiling—1/2" or 3/4" SHEETROCK brand gypsum panels, FIRECODE C core—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan spaced 24" o.c.—panels att with 1" Type S screws—joints fin— UL Des L514 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A			SA-924	35
	Resil ceiling—1/2" or 3/4" SHEETROCK brand gypsum panels, FIRECODE core—1 1/2" nom wd sub & fin flr—44-oz carpet & 40-oz pad atop flr—2x10 wd joist 16" o.c.—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514	47	67	Based on 3/4" SHEETROCK brand gypsum panels, FIRECODE C core— CK-6512-7 Based on 3/4" SHEETROCK brand gypsum panels, FIRECODE core— CK-6412-9	SA-924	36
	Resil ceiling—1/2" or 3/4" SHEETROCK brand gypsum panels, FIRECODE core—1 1/2" nom wd sub & fin flr—2x10 wd joist 16" o.c.—3" THERMAFIBER SAFB betw joists—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	51	46	Based on 3/4" SHEETROCK brand gypsum panels, FIRECODE C core— CK-6512-9 Based on 3/4" SHEETROCK brand gypsum panels, FIRECODE core— CK-6412-3	SA-924	37
	Resil ceiling—1/2" or 3/4" SHEETROCK brand gypsum panels, FIRECODE core—1 1/2" nom wd sub & fin flr—44-oz carpet & 40-oz pad atop flr—2x10 wd joist 16" o.c.—3" THERMAFIBER SAFB betw joists—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514	52	71	Based on 3/4" SHEETROCK brand gypsum panels, FIRECODE C core— CK-6512-8 Based on 3/4" SHEETROCK brand gypsum panels, FIRECODE core— CK-6412-4	SA-924	38

clg. wt. 3

Fire-rated construction
Detail & Physical data
Description & test no.
Acoustical performance
CSTC IIC Description & test no.
Folder reference
Wood Framed Ceiling Systems – Gypsum Drywall or Veneer Plaster (continued)
Floor/Ceiling – 1-Hour Rating

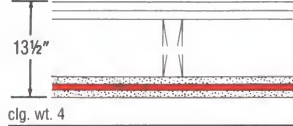
 <p>12 3/4"</p> <p>clg. wt. 3</p>	<p>Resil ceiling—5/8" SHEETROCK brand gypsum panels, FIRECODE C core—1 1/2" perlite-sand conc over 5/8" plywd subflr—2x10 wd joists 16" o.c.—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—UL Des L516—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	<p>59</p> <p>47</p> <p>65</p>	<p>Based on 3" SAFB, 3/4" gypsum concrete & 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—USG 740704</p> <p>Based on 3" SAFB, vinyl tile atop flooring—USG 740703</p> <p>Based on 3" SAFB, 44-oz. carpet & 40-oz. pad atop flooring—USG 740705</p>	<p>SA-924</p>	<p>39</p>
 <p>11"</p> <p>clg. wt. 3</p>	<p>5/8" SHEETROCK brand gypsum panels, FIRECODE core, ceiling—double 2x10 or single 4x10 wd joist 48" o.c.—met fur chan spaced 24" o.c.—panels att with 1" Type S screws—joints fin—UL Des L508—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	<p>N/A</p>		<p>SA-924</p>	<p>40</p>
 <p>11"</p> <p>clg. wt. 5</p>	<p>Base layer: 5/8" SHEETROCK brand gypsum panels, FIRECODE core—screw att at rt. angl. to 2x10 wd joists 24" o.c.—Face layer: 5/8" SHEETROCK brand gypsum panels, FIRECODE core screw att 12" o.c. at rt angl. to joists—joints of second layer offset 24" and fin.—Floor: 3/4" plywd w/ ext glue appl rt. angl to joists w/8d nails. <i>Also for roof-ceilings, incl. trusses—GA FC 5406</i>—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	<p>N/A</p>		<p>SA-920</p>	<p>41</p>
 <p>13 3/4"</p> <p>clg. wt. 3</p>	<p>Base layer: 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—screw att at rt. angl. trusses 24" o.c.—Face layer: 5/8" SHEETROCK brand gypsum panels, FIRECODE C core screw att 12" o.c. at rt angl. to joists—joints of second layer offset 24" and fin.—Floor: 3/4" plywood w/ ext glue appl rt. angl to joists w/ 6d ring nails—UL Des L542—rating also applies with 1/2" IMPERIAL FIRECODE C base and veneer finish surface</p>	<p>N/A</p>		<p>SA-920</p>	<p>42</p>
 <p>14 1/4"</p> <p>clg. wt. 3</p>	<p>5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—2x12 wd truss of 2x4 lbr secured with steel truss plates—trusses 24" o.c.—3/4" nom plywd flr—met fur chan 24" o.c. wire-tied to trusses—panels att with 1" Type S screws 12" o.c.—joints fin—UL Des L528—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	<p>N/A</p>		<p>SA-920 SA-924</p>	<p>43</p>
 <p>20 7/8"</p> <p>clg. wt. 3</p>	<p>5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—2x12 wd truss of 2x4 lbr secured with steel truss plates—trusses 24" o.c.—3/4" nom plywd flr—susp grid with main run 4' o.c. and cross tees 2' o.c.—panels att with 1" Type S-12 screws 12" o.c.—joints fin—UL Des L529—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	<p>N/A</p>		<p>SA-920 SA-924</p>	<p>44</p>
 <p>12 3/4"</p> <p>clg. wt. 3</p>	<p>5/8" or 5/16" SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—susp grid with main run 4' o.c. and cross tees 2' o.c.—panels screw-att below grid—joints fin—UL Des L525—rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface</p>	<p>N/A</p>		<p>SA-924</p>	<p>45</p>
 <p>12 3/4"</p> <p>clg. wt. 3</p>	<p>5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—5/8" T&G plywd flr—10" I-shaped wd joist 24" o.c.—met fur chan 24" o.c. clip-att to joist—1" THERMAFIBER insul laid over chan below joists—panels screw att to chan 12" o.c.—joints fin—UL Des L530 based on Truss Joist members—UL Des L531—rating also applies with 1/2" IMPERIAL FIRECODE C base and veneer finish surface</p>	<p>47</p> <p>40</p> <p>54</p> <p>43</p>	<p>TL-81-87—IN-81-16</p> <p>Based on carpet & pad atop flooring—IN-81-17</p> <p>Based on cushioned vinyl atop flooring—IN-81-19</p>	<p>SA-920 SA-924</p>	<p>46</p>

*RC-1 Resilient Channel may be used in place of metal furring channel.

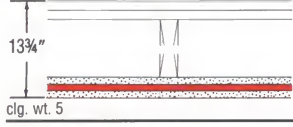
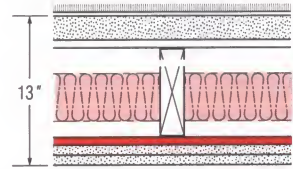
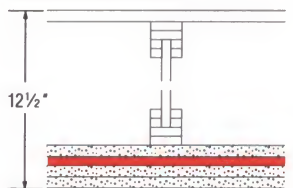
Fire-rated construction		Acoustical performance		Folder reference
Detail & Physical data	Description & test no.	CSTC	IIC	Description & test no.

Wood Framed Ceiling Systems – Gypsum Drywall or Veneer Plaster (continued)

Floor/Ceiling – 1½-Hour Rating

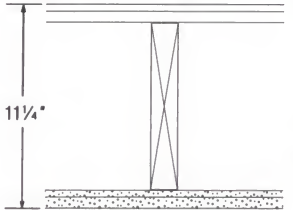
	Resil ceiling—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan spaced 24" o.c. screw att over base layer panels—face layer screw att to chan 12" o.c.—joints fin— UL Des L510 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	Assembly not recommended when sound control is a major consideration	SA-924	47
	Resil 2 layers 1/2" IMPERIAL FIRECODE C gypsum base & veneer finish ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan 24" o.c. screw att over base layer panels—face layer screw att to chan 12" o.c.—1/4" veneer finish—joints taped— UL Des L510 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A		SA-920	48

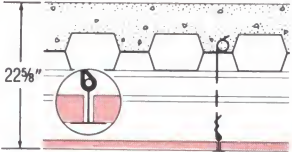
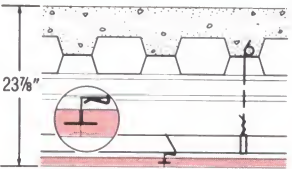
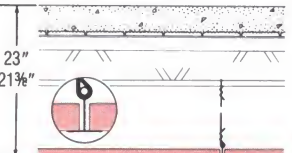
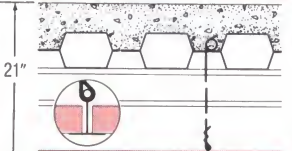
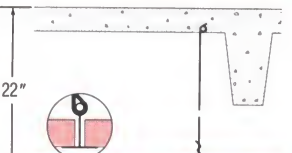

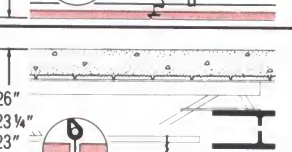
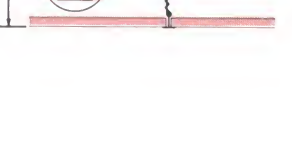
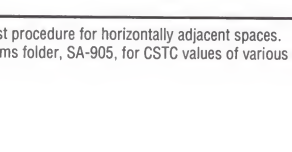

Floor/Ceiling – 2-Hour Rating

	Resil ceiling—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan spaced 24" o.c. screw att over base layer panels—face layer screw att to chan 12" o.c.—joints fin— UL Des L511 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	N/A	Assembly not recommended when sound control is a major consideration	SA-924 SA-920	49
	Floor/ceiling—floor of 8" x 8" ceramic tile, 1/2" DUROCK exterior cement board, 1" SHEETROCK brand gypsum liner panels, 1/2" plywood—2x10 wd joist 16" o.c.—3" THERMAFIBER SAFB—ceiling of 2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, over RC-1 chan 16" o.c.— UL Des L541 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	60 52 58 59 62	RAL-TL89-141 (54 MTC)— RAL-IN89-5 Based on vinyl tile over oriented board in place of ceramic tile and cement board— RAL-TL89-145 (53 MTC)— RAL-IN89-7 Based on carpet/pad over oriented strand board in place of ceramic tile and cement board— RAL-TL89-146 (54 MTC)— RAL-IN89-8	SA-924	50
	Floor/ceiling—floor of carpet/pad, 1 1/2" Type F flooring, 1/2" plywood—2x10 wd joists 16" o.c.—3" THERMAFIBER SAFB—ceiling of 2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, over RC-1 chan 16" o.c.— UL Des L541 —rating also applies with IMPERIAL FIRECODE or FIRECODE C base and veneer finish surface	59 59 37	RAL-TL90-40 (54 MTC)— RAL-IN90-5 Based on vinyl tile in place of carpet/pad— RAL-TL90-40 (54 MTC)— RAL-IN90-6	SA-924	51
	Base layer: 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—screw att at rt. angl. to 9/16" min wood truss joists 24" o.c. RC-1 chan or metal fur chan at rt. angl. to joists 16" o.c.—Double face layer: 1/2" SHEETROCK brand gypsum panels, FIRECODE C core screw att 8" o.c. at rt. angl. to chan—joints offset 24" and fin.—Floor: 3/8" T&G plywood w/ ext glue appl rt. angl to joists— UL Des L538 —rating also applies with 1/2" IMPERIAL FIRECODE C base and veneer finish surface	N/A		SA-920	52

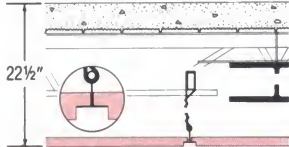
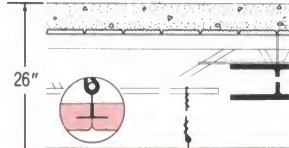
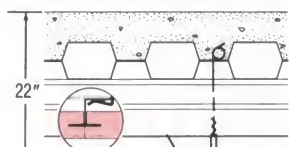
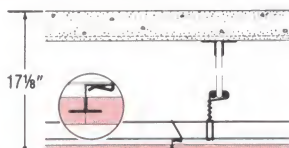
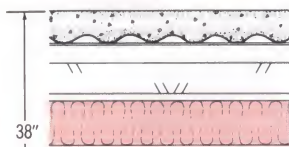
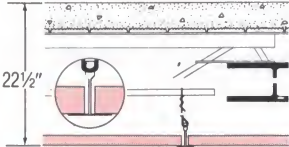
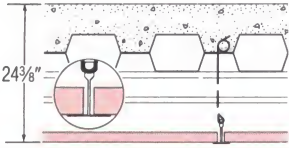
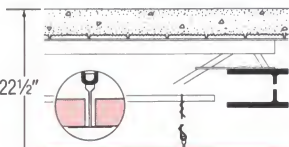
Wood Framed Ceiling Systems – Conventional Lath & Plaster

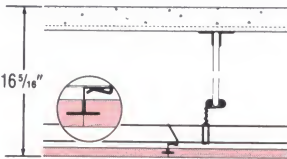
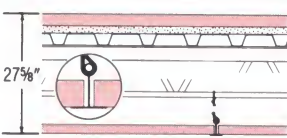
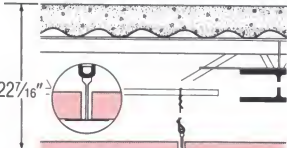
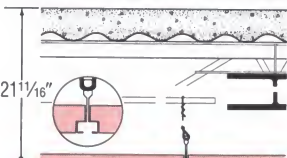
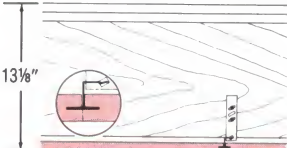
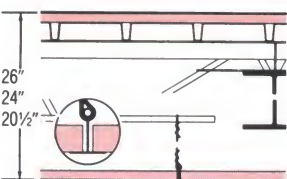
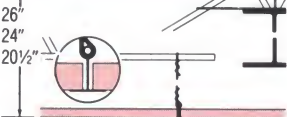
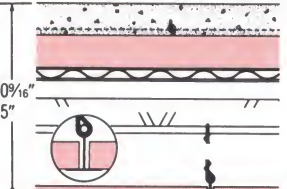
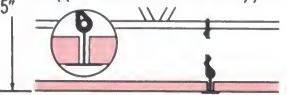
Floor Ceiling – 1-Hour Rating

	1/2" 1:2 RED TOP gypsum plaster-perlite over 3/8" type X ROCKLATH plaster base at rt. angl. to 2x10 wd joists 16" o.c.—1" nom. T&G sub and finish floor— GA FC 5470	N/A		N/A	53
	1/2" 1:2 sanded RED TOP gypsum plaster over 3/8" type X ROCKLATH plaster base at rt. angl. to 2"x10" joists 16" o.c.—1" nom. T&G sub and finish floor— GA FC 5490	N/A		N/A	54
	1/2" 1:2-1:3 sanded RED TOP gypsum plaster over 3.4# diamond lath nailed 6" o.c. at rt. angl. to 2x10 wd joists 16" o.c.—1" nom. T&G sub and finish floor— GA FC 5510	N/A		N/A	55

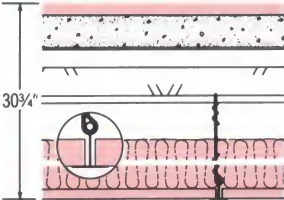
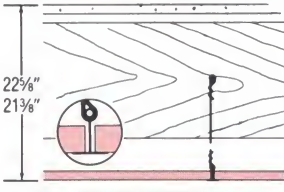
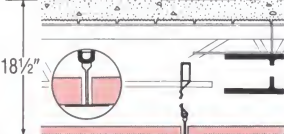
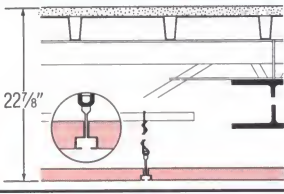
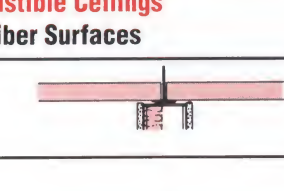


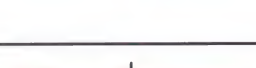


CSTC range†		Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
Acoustical and Air Distributing Ceilings					
3-Hour Rated Ceilings					
Mineral Fiber Surfaces					
35 to 39	40 to 44		AURATONE FIRECODE 3/4" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 1 1/4" THERMAFIBER min wool bd—2 1/2" conc on cellular stl flr— UL Des A207	Includes 4-hr. unrestrained beam	SA-905 56
clg. wt. 12					
45 to 49 c			AURATONE FIRECODE 3/4" x 12" x 12" acoust clg tile on Concealed Z-runner Syst—clg interrupted—light fix prot by 1 1/4" THERMAFIBER min wool bd—2 1/2" conc on cellular stl flr— UL Des A009	Includes 4-hr. unrestrained beam	SA-905 57
clg. wt. 12					
2-Hour Rated Ceilings					
Mineral Fiber Surfaces					
35 to 39	40 to 44		AURATONE FIRECODE 3/4" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 3/4" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist— UL Des G211—UL Des G227	UL Des G227 is Shadowline System and includes 3-hr. unrestrained beam	SA-905 58
clg. wt. 12					
35 to 39	40 to 44		AURATONE FIRECODE 3/4" x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 3/4" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on cellular steel floor— UL Des D201	Includes 3-hr. unrestrained beam	SA-905 59
clg. wt. 12					
35 to 39	40 to 44		AURATONE FIRECODE 3/4" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 3/4" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" prestressed conc units with 6" deep stems 48" o.c.— UL Des J202		SA-905 60
clg. wt. 12					
35 to 39	40 to 44		AURATONE FIRECODE 3/4" x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 3/4" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck with 6" deep pan beam— UL Des J201	Rating 1 1/2 hr. for insulated roof/ceiling	SA-905 61
clg. wt. 12					
35 to 39	40 to 44		AURATONE FIRECODE 3/4" x 12" x 12" acoust clg tile on Concealed Z-runner Syst—clg interrupted—light fix prot by 1 1/4" min wool bd—2 1/2" conc deck on riblath over bar joist— UL Des G019		SA-905 62
clg. wt. 12					
35 to 39	40 to 44		AURATONE FIRECODE 3/4" x 24" x 24" to 30" x 60" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 3/4" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist— UL Des G231	Panels 3/4" thick also qualify, except in 30" x 60" size. Includes 3-hr. unrestrained beam.	SA-905 63
clg. wt. 12					
			AURATONE FIRECODE 3/4"x24"x48" or 24"x36" or 24"x24" or 24"x60" or 36"x60" or 20"x60" or 30"x60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 3/4" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist— UL Des G204	Includes 2-hr. unrestrained beam	SA-905 64
clg. wt. 12					
			AURATONE FIRECODE 3/4" x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist— UL Des G215	Includes 2-hr. unrestrained beam	SA-905 65
clg. wt. 12					

†Per AMA 1-II test procedure for horizontally adjacent spaces.
See Ceiling Systems folder, SA-905, for CSTC values of various patterns.

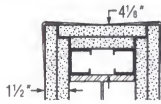
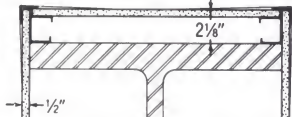
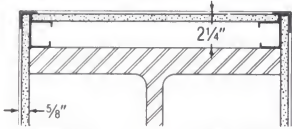
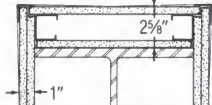
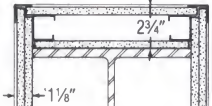
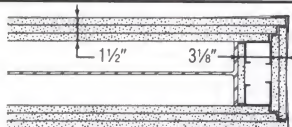
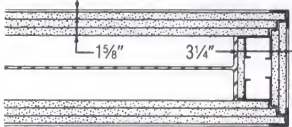
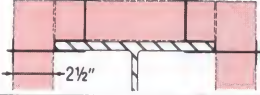
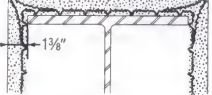
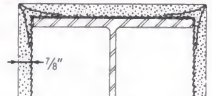
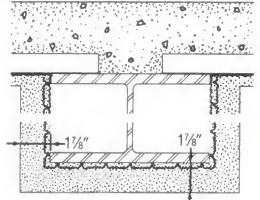
CSTC range†	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
2-Hour Rated Ceilings Mineral Fiber Surfaces				
35 to 39		ACOUSTONE FIRECODE 3/4" x 24" x 24" min acoust panels on Exp Shadowline Grid Syst—clg interrupted—light fix prot by 3/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist— UL Des G228	Includes 2-hr. unrestrained beam	SA-905 66
35 to 39		AURATONE FIRECODE 3/4" x 12" x 12" or 24" x 24" acoust clg tile on Concealed Accessible Grid Syst—clg interrupted—light fix prot by 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist— UL Des G008	Includes 2-hr. unrestrained beam	SA-905 67
35 to 39		ACOUSTONE FIRECODE 3/4" x 12" x 12" min acoust tile on Concealed Z-runner Syst—clg interrupted—light fix prot by 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on cellular stl flr— UL Des A010	Includes 1 1/2 hr. unrestrained beam. Unrestrained assembly rating—1 1/2 hr.	SA-905 68
35 to 39		ACOUSTONE FIRECODE 3/4" x 12" x 12" min acoust tile on Concealed Z-runner Syst—2 1/2" conc deck on riblath over bar joist— UL Des G018		SA-905 69
35 to 39		AURATONE FIRECODE 3/4" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 1 1/4" THERMAFIBER min wool bd—insul clg membrane below joists—2" vermiculite conc on corrug stl deck over bar joist— UL Des P241		SA-905 70
35 to 39		AURATONE FIRECODE 3/4" x 2' x 4' or 3/4" x 2' x 4' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 3/8" or 3/4" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck (2 hr) 3 1/2" conc deck (3 hr) on riblath or steel deck (increase conc 1/2") over bar joist— UL Des G213	Includes 3-hr. unrestrained beam	SA-905 71
35 to 39		AURATONE FIRECODE 3/4" x 2' x 4' acoust clg interrupted—light fix prot by 3/8" AURATONE FIRECODE panels—2 1/2" conc deck on cellular steel floor— UL Des D215	Includes 4-hr. unrestrained beam	SA-905 72
35 to 39		AURATONE FIRECODE 3/4" x 2' x 2' or 3/4" x 2' x 4' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 3/8" or 3/4" AURATONE FIRECODE panels—2 1/2" conc on riblath over bar joist— UL Des G265		SA-905 73

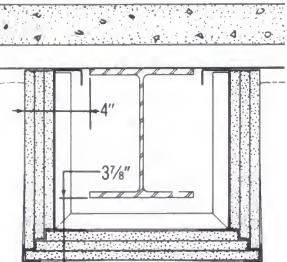
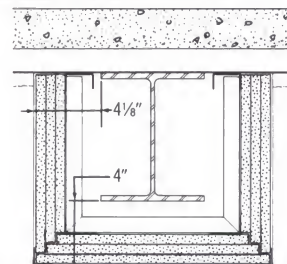
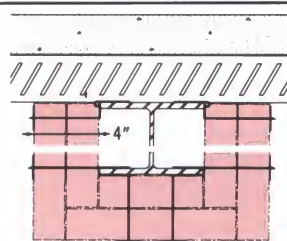
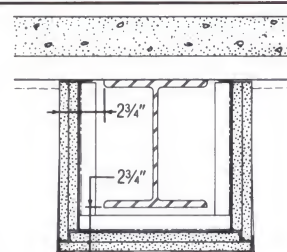
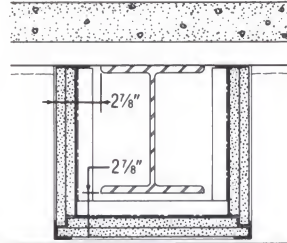
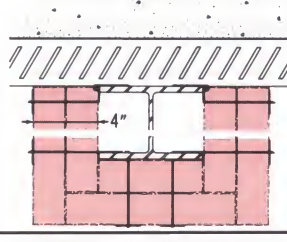
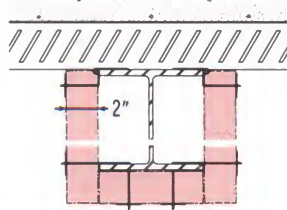
CSTC range†	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
1½-Hour Rated Ceilings Mineral Fiber Surfaces				
35 to 39		ACOUSTONE FIRECODE ¾" x 12" x 12" min acoust tile on Concealed Z-runner Syst—2" conc deck on riblath over bar joist— UL Des G020		SA-905 74
clg. wt. 13				
35 to 39		AURATONE FIRECODE ¾" x 24" x 48" or 24" x 24" acoust clg panels in direct-hung Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" AURATONE FIRECODE panels or 1½" THERMAFIBER min wool bd—1½" stl roof deck & ¾" SHEETROCK brand gypsum panels, FIRECODE core & 2" min fiber insul over bar joist—alt. design ½" DUROCK cement panel in place of gypsum panels, 24" plenum depth, for restrained assembly 1-hr. fire rating— UL Des P230	No max. on insul. thickness. Unrestrained assembly and beam rating—1 hr	SA-905 75
clg. wt. 12				
35 to 39		AURATONE FIRECODE ¾" x 2' x 2' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" AURATONE FIRECODE panels—2½" conc on corrug steel deck over bar joist— UL Des G262		SA-905 76
35 to 39		AURATONE FIRECODE ¾" x 2' x 2' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" AURATONE FIRECODE panels—2½" conc on corrug steel deck over bar joist— UL Des G264		SA-905 77
1-Hour Rated Ceilings Mineral Fiber Surfaces				
35 to 39		ACOUSTONE FIRECODE ¾" x 12" x 12" min acoust tile on Concealed Z-runner Syst—1" nom wd sub & fin floor over wd joist 16" o.c.— UL Des L003		SA-905 78
clg. wt. 13				
35 to 39		AURATONE FIRECODE ¾" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 1¼" THERMAFIBER min wool bd—1½" stl roof deck & 1" noncomb insul over bar joist— UL Des P214	Includes 1-hr. unrestrained beam	SA-905 79
35 to 39		AURATONE FIRECODE ¾" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 1¼" THERMAFIBER min wool bd—1½" stl roof deck & ¾" SHEETROCK brand gypsum panels & 1" rigid foam plastic insul over bar joist— UL Des P235	Includes 1-hr. unrestrained beam. Max. 8" insul. thickness	SA-905 80
clg. wt. 1.2				
35 to 39		AURATONE FIRECODE ¾" x 24" x 48" or 24"x24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 1¼" THERMAFIBER min wool bd—2" vermiculite conc & 2" foamed plastic insul & corrug stl roof deck over bar joists— UL Des P246	Includes 1-hr. unrestrained beam	SA-905 82
clg. wt. 1.2				
35 to 39		AURATONE FIRECODE ¾" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by ¾" AURATONE FIRECODE panels—2" vermiculite conc. & 2" foamed plastic insul & corrug stl roof deck over bar joists— UL Des P255	Includes 1-hr. unrestrained beam	SA-905 83

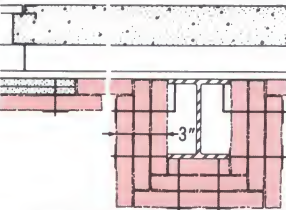
†Per AMA 1-II test procedure for horizontally adjacent spaces.
See Ceiling Systems folder, SA-905, for CSTC values of various patterns.

CSTC range†	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference	
1-Hour Rated Ceilings					
Mineral Fiber Surfaces (continued)					
35 to 39	40 to 44 	AURATONE FIRECODE 3/4" x 24" x 48" or 24" x 24" in Susp Exp Grid Syst—clg interrupted—light fixt prot by 3/4" AURATONE FIRECODE panels—6" insul batts over clg—3/4" noncomb insul and 2" metal-edge conc plank over bar joists— UL Des P245	SA-905	84	
35 to 39	40 to 44 	AURATONE FIRECODE 3/4" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 3/4" AURATONE FIRECODE panels or 1 1/2" THERMAFIBER min wool bd—1" non wd sub & fin flr over 2x10 wd joist— UL Des L206	SA-905	85	
35 to 39	40 to 44 	AURATONE FIRECODE 3/4" x 24" x 48" or 24" x 60" or 3/4" x 24" x 24" in Susp Exp Grid Syst—clg interrupted—light fixt prot by 3/4" AURATONE FIRECODE panels or 1 1/2" THERMAFIBER min wool bd—1" nom wd sub & fin flr over 2x10 wd joists— UL Des L202	SA-905	86	
35 to 39	40 to 44 	AURATONE FIRECODE 3/4" x 2' x 4' acoust clg panels in Susp Exp Grid Syst—clg interrupted—2" conc on riblath over bar joist— UL Des G201	SA-905	87	
35 to 39	40 to 44 	AURATONE FIRECODE 3/4" x 2' x 2' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 3/4" AURATONE FIRECODE panels—1 1/2" steel roof deck & rigid foam plastic insul over bar joist— UL Des P254	Includes 3/4-hr. unrestrained beam	SA-905	88
Noncombustible Ceilings					
Mineral Fiber Surfaces					
35 to 39	40 to 44 	ACOUSTONE "F" Foil-Backed 3/4" x 12" x 24" or 12" x 36" min acoust tile on 1-Way Exp Grid Syst— ASTM E84	One-way exposed grid system for accessibility	SA-905	89
40 to 44		ACOUSTONE Foil-Backed Fissured or Glacier 3/4" x 12" x 12" min acoust tile on concealed 100% Accessible Direct-hung Susp Syst— ASTM E84	Basic direct-hung concealed accessible system	SA-905	90
35 to 39	40 to 44 	ACOUSTONE "F" 3/4" x 12" x 12" or 12" x 24" min. acoust tile on Concealed Z-runner Syst— ASTM E84	Basic concealed spline acoustical tile system; STC estimated	SA-905	91
40 to 44		3/4" or 3/4" x 24" x 24" or 24" x 48" acoust clg panels in Susp Exposed Grid Syst— ASTM E84	Basic noncombustible lay-in panels; NRC varies with pattern	SA-905	92
48		AURATONE 3/4" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—contin over partn—3" THERMAFIBER SAFB over clg— ASTM E84	Sound test USG-820406 includes blankets extending 4 ft. each side of partition	SA-905	93

Column type	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
Column Fireproofing				
4-Hour Rated Applications				
W14 x228		Gypsum Drywall Fireprfg—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, around col—panels screw att to 158ST25 steel studs at corners—met corner beads—joints fin— UL Des X507		SA-923 1
W14 x228		Gypsum Base & Veneer Finish Fireprfg—2 layers 5/8" IMPERIAL FIRECODE C gypsum base around col—base screw att to 158ST25 steel studs at corners—met corner beads—1/8" veneer finish— UL Des X507		SA-920 2
W14 x228		THERMAFIBER Mineral Fireprfg—2" fireprfg around col att with 1/2" stl wire studs welded to col 24" o.c.— UL Des X304	Dry assembly offers excellent thermal insulation for exterior columns	SA-707 3
W10 x49		Metal lath & plaster—3.4# diamond mesh metal furred 5/8" from face of column—1 1/2" STRUCTO-LITE plaster with fill between flange face & lath— UL Des X405		SA-920 4
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column—1 1/2" STRUCTO-LITE plaster or 100:2-100:3 gypsum-perlite plaster— UL Des X402		SA-920 5
3-Hour Rated Applications				
W4x13 W6x15.5 W10x49		Gypsum drywall fireprfg—3 layers 5/8" SHEETROCK brand gypsum panels, ULTRACODE core, around col, with second layer wrapped with no. 18 SWG steel wire spaced 24" o.c.—panels screw att to 158ST25 steel studs at corners—met corner beads—joints fin— UL Des X528		SA-923 6
W14 x228		Gypsum Drywall Fireprfg—5/8" SHEETROCK brand gypsum panels, FIRECODE C core, around col—double layer over ea web face—panels screw att to 158ST25 steel studs at col corners—met corner beads—joints fin— UL Des X514		SA-923 7
W14 x228		Gypsum Base & Veneer Finish Fireprfg—5/8" IMPERIAL FIRECODE C gypsum base around col—double layer over ea web face—base screw att to 158ST25 steel studs at col corners—met corner beads—1/8" veneer finish— UL Des X514		SA-920 8
W10 x49		Gypsum Drywall Fireprfg—3 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, around col—triple layer over ea flange end—inner layers on flange face separ by 158ST25 steel studs & screw att—met beads on corners—joints fin— UL Des X515		SA-923 9
W10 x49		Gypsum Base & Veneer Finish Fireprfg—3 layers 5/8" IMPERIAL FIRECODE C gypsum base around col—triple layer over ea flange end—inner layers on flange face separ by 158ST25 steel studs & screw att—met beads on corners—1/8" veneer finish— UL Des X515		SA-920 10
W10 x49		THERMAFIBER Mineral Fireprfg—dble layer 2" fireprfg around col att with stud welding pins or 12-ga. flange clips & clinch shields 16" o.c.— UL Des X306	Dry assembly, offers excellent insulation for exterior columns	SA-707 11
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column—1 1/2" 100:2-100:3 gypsum-perlite plaster or STRUCTO-LITE plaster— UL Des X402		SA-920 12

Column type	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference		
2-Hour Rated Applications						
W4x13 W6x15.5 W10x49		Gypsum drywall fireprfg—2 layers 5/8" SHEETROCK brand gypsum panels, ULTRACODE core, around col—panels screw att to 158ST25 steel studs at corners—met corner beads—joints fin— UL Des X528	SA-923	13		
W14 x228		Gypsum Drywall Fireprfg—1 layer—5/8" SHEETROCK brand gypsum panels, FIRECODE C core, around col—panel screw att to 158ST25 steel studs at col corners—met corner beads—joints fin— UL Des X521	SA-923	14		
W14 x228		Gypsum Base & Veneer Finish Fireprfg—5/8" IMPERIAL FIRECODE C gypsum base around col—base screw att to 158ST25 steel stud at col corners—met corner beads—5/16" veneer finish— UL Des X521	SA-920	15		
W10 x49		Gypsum Drywall Fireprfg—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, around col—double layer over ea flange end—double layer on flange faces separ by 158ST25 steel stud & screw att—met beads on corners—joints fin— UL Des X518	SA-923	16		
W10 x49		Gypsum Base & Veneer Finish Fireprfg—2 layers 5/8" IMPERIAL FIRECODE C gypsum base around col—double layer over ea flange end—double layer on flange faces separ by 158ST25 steel studs & screw att—met beads on corners—5/16" veneer finish— UL Des X518	SA-920	17		
Varies		Gypsum Drywall Fireprfg—3 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, around col—triple layer over ea flange end—inner layers on flange face separ by 158ST25 steel studs & screw att—met beads on corners—joints fin— UL Des X524	Rating also applies to tapered or constant-section prefabricated metal building columns	SA-923	18	
Varies		Gypsum Base & Veneer Finish Fireprfg—3 layers 5/8" IMPERIAL FIRECODE C gypsum base around col—triple layer over ea flange end—inner layer on flange face separ by 158ST25 steel studs & screw att—met beads on corners—5/16" veneer finish— UL Des X524	Rating applies to tapered or constant-section prefabricated metal building columns	SA-920	19	
W10 x49		THERMAFIBER Mineral Fireprfg—2 1/2" fireprfg around col att with stud welding pins or 12-ga. flange clips & clinch shields 24" o.c.— UL Des X305	Dry assembly; offers excellent thermal insulation for exterior columns	SA-707	20	
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column—1" 100:2-100:3 gypsum-perlite plaster or STRUCTO-LITE plaster— UL Des X402		SA-920	21	
1-Hour Rated Application						
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column—3/4" 100:2-100:3 gypsum-sand plaster— BMS-92		SA-920	22	
Beam Fireproofing						
4 hr.	W12 x58		Metal Lath & Plaster Caged Beam Fireprfg—3.4# self-furring diamond mesh metal lath enclosing beam—1 1/2" 100:2 gypsum-perlite plaster— UL 40 UL8.16, UL Des D403	Suitable for protection of beams and girders	SA-920	23

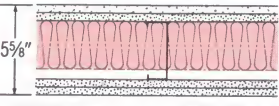

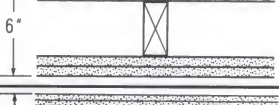
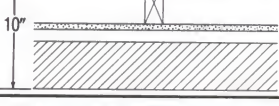
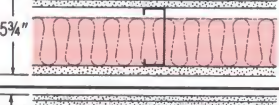
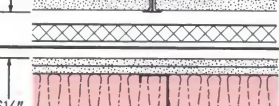
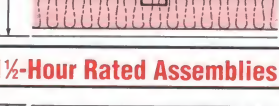



Column type	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
Beam Fireproofing (continued)				
3 hr. (beam only)	W8 x24 	Gypsum Drywall Caged Beam Fireprfg—1 $\frac{1}{2}$ " stl run chan brackets 24" o.c.— $\frac{5}{8}$ " x 1 $\frac{1}{2}$ " corner angles att to brackets—3 layers $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, att with Type S screws—1" 20-ga. hex mesh on bottom over middle layer—met beads on corners—joints fin—2 $\frac{1}{2}$ " conc deck on fluted stl flr— UL Des N505	Extends drywall use to beam protection. Fire rating for restrained assembly; 2-hr. rating for unrestrained assembly	SA-923 24
3 hr. (beam only)	W8 x24 	Gypsum Base & Veneer Finish Caged Beam Fireprfg—1 $\frac{1}{2}$ " stl run chan brackets 24" o.c.— $\frac{5}{8}$ " x 1 $\frac{1}{2}$ " corner angles att to chan brackets—3 layers $\frac{5}{8}$ " IMPERIAL FIRECODE base att with Type S screws—1" 20-ga. hex mesh on bottom over middle layer—met beads on corners—joints taped— $\frac{1}{4}$ " veneer finish—2 $\frac{1}{2}$ " conc deck on fluted stl flr— UL Des N505	Fire rating for restrained assembly; 2-hr. rating for unrestrained assembly	SA-920 25
3 hr.	W8 x24 	THERMAFIBER Mineral Fireprfg—dbl layer 2" fireprfg around beam att with stud welding pins or 12-ga. flange clips & clinch shields 12" o.c.—2 $\frac{1}{2}$ " conc deck on cellular stl flr— UL Des N304	Fire rating for restrained beam; unrestrained beam rating is 2-hr.	SA-707 26
2 hr. (beam only)	W8 x24 	Gypsum Drywall Caged Beam Fireprfg—1 $\frac{1}{2}$ " stl run chan brackets 24" o.c.—1 $\frac{1}{2}$ " x $\frac{5}{8}$ " corner angles att to chan brackets—dbl layer $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, att with Type S screws—met beads on corners—joints fin—2 $\frac{1}{2}$ " conc deck on fluted stl flr— UL Des N501 (f) — UL Des N502	Design N502 based on 1 $\frac{1}{2}$ " steel runner for corner angles and coped brackets	SA-923 27
2 hr. (beam only)	W8 x24 	Gypsum Base & Veneer Finish Fireprfg—1 $\frac{1}{2}$ " stl run chan brackets—dbl layer $\frac{5}{8}$ " IMPERIAL FIRECODE base att with Type S screws—met beads on corners— $\frac{1}{4}$ " veneer finish—2 $\frac{1}{2}$ " conc deck on fluted stl flr— UL Des N501 — UL Des N502	Design N502 based on 1 $\frac{1}{2}$ " steel runner for corner angles and coped brackets	SA-920 28
2 hr.	W8 x13 	THERMAFIBER Mineral Fireprfg—dbl layer 2" fireprfg around beam att with stud welding pins or 12-ga. flange clips & clinch shields 16" o.c.—3 $\frac{1}{2}$ " conc on fluted steel flr— UL Des D915	Fire rating is 1 $\frac{1}{2}$ hr. with cellular steel floor units	SA-707 29
2 hr.	W8 x24 	THERMAFIBER Mineral Fireprfg—2" around beam att with stud welding pins or 12-ga. flange clips & clinch shields 12" o.c.—2 $\frac{1}{2}$ " conc on fluted stl flr— UL Des N304 — UL Des N305	Fire rating is 1 $\frac{1}{2}$ hr. with cellular steel floor units	SA-707 30

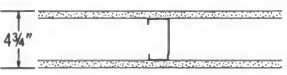


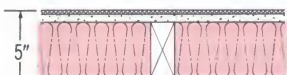
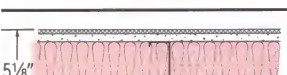
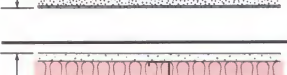

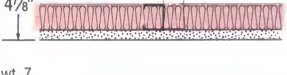
Column type	Physical data construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
Trench Header Duct				
3 hr. W6 x12		THERMAFIBER Mineral Fireprfg—1" fireprfg, 8.25 pcf, under flr deck and trench header—dbl layer ½" SHEETROCK brand gypsum panels, FIRECODE C core, under trench header—triple layer 3" fireprfg around beam—fireprfg and panels att with stud welding pins & clinch shields—2½" conc on fluted stl flr—UL Des D301	Includes 4-hr. beam. Fire rating 2 hr. (beam 3-hr.) with 6.50-pcf min. fireprfg—UL Des D302	SA-707 31

(See other System Folders Nos. SA-905, SA-920, SA-923 and United States Gypsum Company Technical Bulletin CS-6 for protection of beams, girders, and trusses by ceiling constructions.)


Exterior Walls

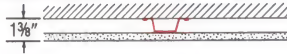




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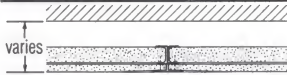
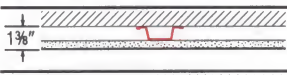

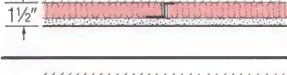
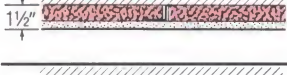
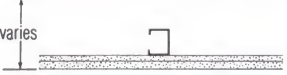

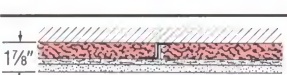
Physical data construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
2-Hour Rated Assemblies			
	Steel Stud—½" DUROCK cement panel—base layer ½" SHEETROCK brand gypsum panels, FIRECODE C core, both sides—board screw-attached with 1½" DUROCK steel screws 8" o.c. to 3½" 20-ga. min. steel non-load bearing studs 16" o.c.—3" THERMAFIBER SAFB—joints taped—alt. design, double-layer ½" SHEETROCK brand gypsum panels, FIRECODE C core, interior—UL Des U474		SA-700 1
	Dbl layer ¾" SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—35SJ20 studs 24" o.c.—dbl layer ¾" SHEETROCK brand gypsum panels, FIRECODE core, interior—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1½" Type S-12 screws 12" o.c.—load bearing up to 80% allowable stud axial load—UL Des U425	Rating also applies with SHEETROCK brand gypsum panels, water-resistant, FIRECODE core, gypsum panel exterior	SA-923 2
	Wd Stud—2 layers ¾" SHEETROCK brand gypsum panels, FIRECODE core, interior—2 layers ¾" SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—2x4 16" o.c.—base layer att with 1½" nails 6" o.c.—face layer att with 2½" nails 8" o.c.joints—exp of fin—UL Des U301		SA-924 3
	Wd Stud—2 layers ¾" SHEETROCK brand gypsum panels, FIRECODE core, interior—½" SHEETROCK brand gypsum sheathing, and 4" brick masonry veneer exterior—2x4 16" o.c.—sheathing appl horiz with 11d galv nails 6" o.c.—SHEETROCK brand gypsum panels, appl horiz or vert with nails 8" o.c.—joints stag & fin—UL Des U302	Rating also applies with IMPERIAL FIRECODE Base and veneer finish interior.	SA-924 4
	Exterior Curtain Wall—35ST20 steel studs 16" o.c.—½" gypsum sheathing—self-furring metal lath—1" cement-lime stucco exterior—3" THERMAFIBER fire safety FS-15 blankets betw studs—¾" SHEETROCK brand gypsum panels, foil-back, FIRECODE C core, or IMPERIAL FIRECODE C gypsum base and ¼" IMPERIAL veneer finish interior—T-4851-OSU	Systems offer wide selection of exterior and interior surfaces, utilizing conventional materials	SA-923 5
	Exterior Curtain Wall—1" SHEETROCK brand gypsum liner panels set betw steel C-H studs 24" o.c. on exterior—2 layers SHEETROCK brand gypsum panels, FIRECODE C core, screw att on interior—joints fin—U of C 4-2-75	Rating also applies with IMPERIAL FIRECODE C base and veneer finish interior	SA-923 6
	Glass-fiber reinforced concrete panels, 6'8 1/2" x 7'0", ½" thick, bolted to frame—40SJ16 studs 16" o.c. anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—double layer ¾" SHEETROCK brand gypsum panels, FIRECODE C core, interior—joints finished—CEG 4-23-82		SA-923 7
1½-Hour Rated Assemblies			
	Dbl layer ¾" SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—35SJ20 studs 24" o.c.—dbl layer ¾" SHEETROCK brand gypsum panels, FIRECODE core, interior—base layers att with 1" Type S-12 screws 12" o.c.—face layers att with 1½" Type S-12 screws 12" o.c.—load bearing up to 100% allowable stud axial load—UL Des U425		SA-923 8
	¾" SHEETROCK brand gypsum sheathing, exterior—35SJ20 studs 24" o.c.—dbl layer ¾" SHEETROCK brand gypsum panels, FIRECODE core, interior—base layers att with 1" Type S-12 screws 12" o.c.—face layers att with 1½" Type S-12 screws 12" o.c.—load bearing up to 100% allowable stud axial load—UL Des U425	Rating applicable to fire exposure on interior face only	SA-923 9
	Glass-fiber reinforced concrete panels, 6'8 1/2" x 7'0", ½" thick, bolted to frame—40SJ16 steel studs 16" o.c. anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—¾" SHEETROCK brand gypsum panels, FIRECODE C core, interior screw-attached to studs—joints finished—CEG 2-3-82		SA-923 10

Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
1-Hour Rated Assemblies			
	$\frac{3}{8}$ " SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—35SJ20 studs 24" o.c.— $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, interior—panels appl vert & att with 1" Type S-12 screws 12" o.c.—load bearing up to 100% allowable stud axial load—UL Des U425	Rating also applies with SHEETROCK brand gypsum panels, water-resistant, FIRECODE core, exterior	SA-923 11
	35SJ20 studs 24" o.c.— $\frac{1}{2}$ " gypsum sheathing—1" extruded polystyrene insul installed horiz— $\frac{3}{8}$ " cedar plywood exterior— $\frac{3}{8}$ " THERMAFIBER FS-15 insul blks betw studs— $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, interior—joints fin—CEG 12-7-79		SA-923 12
	Wd Stud— $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, interior—1" extruded polystyrene insul sheathing and $\frac{1}{2}$ " plywood siding—2x4 16" o.c.— $\frac{3}{8}$ " THERMAFIBER FS-15 insul blks—foamed plastic att with $1\frac{1}{2}$ " galv nails, plwd siding att with 10d galv nails 12" o.c.—gypsum panels appl vert with 6d cem ctd nails 7" o.c.—joints fin—UL Des U330		SA-924 13
	Wd Stud— $\frac{1}{2}$ " DUROCK cement panel and $\frac{1}{4}$ " ceramic tile exterior—board att with $1\frac{1}{2}$ " DUROCK wood screws or $1\frac{1}{2}$ " hot dipped galvanized roofing nails 8" o.c.—2 x 4 wood load bearing studs spaced 16" o.c.— $\frac{3}{8}$ " THERMAFIBER FS-15 insulation between studs— $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, or IMPERIAL FIRECODE gypsum base and $\frac{1}{4}$ " IMPERIAL finish interior—UL Des U329		SA-700 14
	Steel stud— $\frac{1}{2}$ " DUROCK cement panel and $\frac{1}{4}$ " ceramic tile exterior—board screw-attached with $1\frac{1}{2}$ " DUROCK steel screws 8" o.c. to $\frac{3}{8}$ " 20-ga. min. steel non-load bearing studs spaced 16" o.c.—3" THERMAFIBER SAFB insulation between studs— $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, or IMPERIAL FIRECODE gypsum base and $\frac{1}{4}$ " IMPERIAL finish interior—UL Des U442		SA-700 15
	Steel Stud— $\frac{1}{2}$ " DUROCK cement panel— $\frac{3}{8}$ " 20-ga. min. steel non-load bearing studs 16" o.c.—3" min. THERMAFIBER SAFB—board att with $1\frac{1}{2}$ " DUROCK steel screws 8" o.c.—joints taped— $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—UL Des U457		SA-700 16
	Steel Stud— $\frac{1}{2}$ " DUROCK cement panel— $1\frac{1}{2}$ " 20-ga. min. steel non-load bearing studs 16" o.c. in two rows with horiz braces— $1\frac{1}{2}$ " THERMAFIBER SAFB in both stud cavities—board att with $1\frac{1}{2}$ " DUROCK steel screws 8" o.c.—joints taped— $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—UL Des U458		SA-700 17
	Steel Stud— $\frac{1}{2}$ " DUROCK cement panel—base layer $\frac{3}{8}$ " SHEETROCK brand gypsum panels, water-resistant, FIRECODE core—board screw-attached with $1\frac{1}{2}$ " DUROCK steel screws 8" o.c. to $\frac{3}{8}$ " 20-ga. min. steel load-bearing studs 16" o.c.—3" THERMAFIBER SAFB—joints taped— $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, interior—UL Des U473		SA-700 18

45-Min. Rated Assembly

	$\frac{3}{8}$ " SHEETROCK brand gypsum sheathing, FIRECODE core—35SJ20 studs 24" o.c.— $\frac{3}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, interior—panels appl vert & att with 1" Type S-12 screws 12" o.c.—load bearing up to 100% allowable stud axial load—UL Des U425		SA-923 19
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Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
Drywall Assemblies			
	Metal furring channels 24" o.c., $\frac{1}{2}$ " SHEETROCK brand gypsum panels, foil-back, screw attached, joints finished	Good vapor retarder, no limiting height	SA-923 1
	Wood furring strips 16" o.c., $\frac{1}{2}$ " SHEETROCK brand gypsum panels, foil-back, joints finished	Surface not isolated from structural stresses	SA-924 2
	SHEETROCK Z-furring channels appl vert 24" o.c., THERMAFIBER fire safety FS-15 blankets betw chan, $\frac{1}{2}$ " SHEETROCK brand gypsum panels, foil-back, screw attached to channels, joints finished	Suitable for up to 3" thick insulation; good vapor retarder; no limiting height	SA-923 SA-924 3
	Steel studs 24" o.c., $\frac{1}{2}$ " SHEETROCK brand gypsum panels, foil-back, screw attached, joints finished	Free standing for pipe chase clearance; good vapor retarder	SA-923 4
	SHEETROCK Z-furring channels appl vert 24" o.c., rigid plastic foam insulation betw chan, $\frac{1}{2}$ " SHEETROCK brand gypsum panels, foil-back, appl vert and screw-attached to channels, joints finished	Suitable for up to 3" thick insulation no limiting height	SA-923 5

Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
	SHEETROCK brand gypsum liner panels screw-attached to steel angle runners, 1" USG H-splines 24" o.c., 1/2" SHEETROCK brand gypsum panels, foil-back, screw-attached to H-splines, joints finished	Free-standing for pipe chase clearance, good vapor retarder	SA-926 6
Plaster Assemblies			
	Metal furring channels 16" o.c., 1/2" IMPERIAL gypsum base, foil-back, screw-attached to channels, 1/8" veneer finish	Good vapor retarder, no limiting height	SA-920 7
	Steel studs 16" o.c. set in runners, 1/2" IMPERIAL gypsum base, foil-back, screw-attached to studs, 1/8" veneer finish	Free-standing, allows for pipe chase clearance, good vapor retarder.	SA-920 8
	SHEETROCK Z-furring channels appl vert 24" o.c., THERMAFIBER fire safety FS-15 blankets betw chan, 1/2" IMPERIAL gypsum base, foil-back, screw-attached to channels, 1/8" veneer finish	Noncombustible, good vapor retarder, no limiting height	SA-920 9
	SHEETROCK Z-furring channels appl vert 24" o.c., rigid plastic foam insulation betw chan, 1/2" IMPERIAL gypsum base, foil-back, screw-attached to channels, 1/8" veneer finish	Suitable for up to 3" thick insulation, no limiting height	SA-920 10
	Steel studs 16" o.c. set in runners, 1/2" ROCKLATH base attached with 1" Type S screws, 1/2" sanded basecoat plaster, lime putty finish	Free standing; allows for pipe chase clearance; good vapor retarder.	SA-920 11
	SHEETROCK Z-furring channels applied vertically 16" or 24" o.c., THERMAFIBER fire safety FS-25 blankets between channels, 1/2" ROCKLATH base attached with 1" Type S screws, 1/2" sanded basecoat plaster, lime putty finish	Noncombustible; system with mineral fiber insulation; suitable for up to 3" thick insulation; no limiting height.	SA-920 12
	SHEETROCK Z-furring channels applied vertically 16" or 24" o.c., rigid plastic foam insulation between channels, 1/2" ROCKLATH base attached with 1" Type S screws, 1/2" sanded basecoat plaster, lime putty finish	Suitable for up to 3" thick insulation; no limiting height.	SA-920 13

Curtain Walls

F

Fire containment ⁽¹⁾	Curtain wall type	Description & test no.	Folder reference
5 hr. ⁽²⁾	alum spandrel	Panel 5'x6'8", 1/4" thick, bolted to alum angle frame—2" THERMAFIBER CW-90 curtain wall insulation—alum weld-on pins with speed clips approx 12" o.c.— CEG 3-29-74	SA-707 1
3 hr.	alum spandrel	Panel 4'x6'9", 0.123 thick, bolted to frame—3" THERMAFIBER CW-70 foil-faced curtain wall insulation—1/8" alum weld-on pins with speed clips spaced 14" vert and 12" horiz— USG 11-30-71	SA-707 2
3 hr.	glass spandrel	Tempered vision-glass panel, 3'2"x6'2"x1/2", 1/2" thick, in alum frame—2" THERMAFIBER CW-90 dark curtain wall insulation—weld-on pins with speed clips at top and bottom— CEG 4-2-81	SA-707 3
3 hr.	alum mullion granite panel	Granite spandrel panel, 1 1/4" thick, kerfed top and bottom and inserted in alum extrusions secured to alum mullions at 5' o.c.—recessed 2" CW-90 Foil-Faced Curtain Wall insulation screw attached with sheet metal shields at 12" o.c. to 1 1/2" x 1 1/2" 20 ga. galv steel angles screw attached to mullions—mullions covered with 6" wide, 1" thick CW-90 Foil-Faced Curtain Wall insulation screw attached 12" o.c.— CEG 4-23-90	SA-707 4
2 hr.	alum mullion glass panel	Tempered glass panel, 1 1/4" thick, secured to alum mullions at 5' o.c. with pressure plates—recessed 2" CW-90 Foil-Faced Curtain Wall insulation screw attached with sheet metal shields at 12" o.c. to 1 1/2" x 1 1/2" 20 ga. galv steel angles screw attached to mullions—mullions covered with 6" wide, 1" thick CW-90 Foil-Faced Curtain Wall insulation screw attached 12" o.c.— CEG 12-20-89	SA-707 5
2 hr.	alum mullion glass panel	Same as above except that safing between furnace and assembly was sealed with 4" thick THERMAFIBER safing and topped off with 1" THERMAFIBER SMOKE SEAL compound in lieu of safing clips— CEG 1-16-90	SA-707 6
2 hr.	glass spandrel	Tempered glass panel, 4'8"x5'9", 1/4" thick, in alum frame—2" THERMAFIBER CW-90 foil-faced curtain wall insulation—weld-on pins with speed clips— WJE-72481	SA-707 7
2 hr.	alum spandrel	Panel 4'x6'9", 0.247" thick, bolted to frame—2" THERMAFIBER CW-40 foil-faced curtain wall insulation—8d alum-nail, weld-on pins with speed clips spaced 14" vert and 12" horiz— USG 10-18-71	SA-707 8
2 hr.	alum spandrel	Panel 5'0"x6'9", 1/4" thick, bolted to frame—2" THERMAFIBER CW-90 curtain wall insulation—weld-on pins with speed clips approx. 12" o.c.— WJE-72455	SA-707 9
2 hr.	alum mullion granite panel	Panel, 1 1/4" thick, kerfed top and bottom and inserted in alum extrusions secured to alum mullions at 5' o.c.—recessed 2" CW-90 Foil-Faced Curtain Wall insulation screw attached with sheet metal shields at 12" o.c. to 1 1/2" x 1 1/2" 20 ga. galv steel angles screw attached to mullions—mullions covered with 6" wide, 1" thick CW-90 Foil-Faced Curtain Wall insulation screw attached 12" o.c.— CEG 1-15-90	SA-707 10
2 hr.	granite panel	Panel, 1 1/4" thick, secured to 2 1/2"x2 1/2"x1/2" steel angle frame 3'8"x6'6"—2" THERMAFIBER CW-90 foil-faced curtain wall insulation—weld-on pins with speed clips spaced 12" o.c. around frame— CEG 10-6-81	SA-707 11
2 hr.	alum mullion glass panel	Heat strengthened glass spandrel, 1/4" thick, secured to alum mullions at 5' o.c.—2" THERMAFIBER CW FIRESAN 90 insulation attached over impaling pins with sheet metal shields 12" o.c. to 2"x2" steel angles—mullions covered with 6" wide, 1" thick THERMAFIBER CW FIRESAN 90 insulation—1"x1"x22 ga. steel angle embedded in 2" THERMAFIBER CW FIRESAN 90 insulation at horizontal splice of blankets—4" thick THERMAFIBER safing insulation— UL Report Dated 1-11-93	SA-707 12
2 hr.	gypsum sheathing	SHEETROCK gypsum sheathing spandrel panels, FIRECODE core, 1/2" thick, secured to 3/8" 20-ga. steel studs—3" THERMAFIBER CW FIRESAN 40 insulation—concrete floor slab—4" THERMAFIBER safing insulation—UL Classification Pending	13
2 hr.	glass-fiber reinforced concrete panel	GFRC panels, 6'8"x7'0" 1/2" thick, bolted to frame—4" steel studs anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, screw att to studs— CEG 4-23-82	SA-707 14
1 1/2 hr.	glass-fiber reinforced concrete panel	GFRC panels 6'8"x7'0", 1/2" thick, bolted to frame—4" steel studs anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—1/2" SHEETROCK brand gypsum panels, FIRECODE C core, screw att to studs— CEG 2-3-82	SA-707 15
1 hr.	alum spandrel	Aluminum spandrel panel, 1/4" thick, secured to alum mullions at 5' o.c.—3" THERMAFIBER CW FIRESAN 40 insulation attached over impaling pins with sheet metal shields 12" o.c. to 2"x2" steel angles—mullions covered with 6" wide, 1" thick THERMAFIBER CW FIRESAN 90 insulation—1"x1"x22 ga. steel angle embedded in 3" THERMAFIBER CW FIRESAN 40 insulation at horizontal splice of blankets—4" thick THERMAFIBER safing insulation— UL Report Dated 1-8-93	SA-707 16

F Curtain Walls

Fire containment ⁽¹⁾	Curtain wall type	Description & test no.	Folder reference
1 hr.	alum spandrel	Exterior alum and steel panel 4'5"x6'9" secured in frame—1½" THERMAFIBER CW-90 curtain wall insulation—impaling pins and speed clips near center and top— USG 6-3-71	SA-707 17
1 hr.	alum mullion glass panel	Heat-strengthened black glass panel 3'3"x5'9", ½" thick, an alum mullion frame—2" THERMAFIBER CW-90 foil-faced curtain wall insulation inserted in mullions—support clips at floor slab— CEG 8-6-81	SA-707 18
1 hr.	alum mullion granite panel	Panel, 1½" thick, inserted in alum mullion frame 3'7"x6'8"—horiz met fur chan betw mullions—2½" THERMAFIBER CW-40 curtain wall insulation behind chan—½" SHEETROCK brand gypsum panels, FIRECODE C core, appl vert & screw att to chan— CEG 7-27-81	SA-707 19
1 hr.	alum mullion glass panel	Tempered solar gray glass panel 5'1½"x6'x10", ½" thick, set in alum-mullion frame—2"x4'x5' THERMAFIBER CW-90 curtain wall insulation—wire impaling devices with speed clips 24" o.c.— CEG 7-25-75	SA-707 20

(1) Times shown not to be construed as end points. (2) Conducted to establish an end-point for THERMAFIBER insulation in a typical curtain wall assembly, but after 5 hr. 5 min. without failure or physical change (except color), test was terminated to avoid furnace damage. Folder reference: SA-707.

G Through-Penetration Fire Stops⁽¹⁾

F/T ratings ⁽²⁾	Assembly type	Description & test no.	Folder reference
3 hr./0&1 hr.	Floor/wall	Concrete min. 4½" thick (floor), 5" thick (wall)—steel sleeve (optional) max. 14" dia. Schedule 40 or heavier—max. 10" dia. Schedule 10 steel pipe with ¼"-2¼" annular space (0-hr. T) or max. 4" EMT or steel rigid conduit, or Schedule 5 steel pipe with ¼"-2¼" annular space (0-hr. T)—(option to pipe) 10% to max. 40% fill of 100 pair no. 24 AWG telephone cables with ½"-3½" annular space (0-hr. T)—blank opening (no steel sleeve) max. 8" (1-hr. T)—min. 3" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. 1" deep FIRECODE compound on top surface of floor or each side of wall— UL Systems CAJ-1081 (Pipe), CAJ-3045 (Cable)	SA-727 1
2 & 3 hr./0 & ¼ hr. ⁽³⁾	Floor/wall	Concrete min. 4½" thick (floor), 6½" thick wall—steel sleeve (optional) Schedule 40 or heavier—1½" steel pipe or conduit with 2½" annular space F 3 hr./T ¼ hr.; 4" pipe with ¾" annular space F 3 hr./T 0 hr.; 6" pipe with ¾" annular space F 2 hr./T 0 hr.—min. 2½" THERMAFIBER safing insulation—min. 2" layer THERMAFIBER SMOKE SEAL compound on top surface of floor or each side of wall— UL System CAJ-1020	SA-707 2
2 hr./2 hr.	Wall	2-hr. gypsum panel wall—multiple nom. 1" diam. Schedule 10 pipes with annular space min. ¾" to max. 1¼"—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. 1" deep FIRECODE compound each side of wall— UL System WL-1065	SA-727 3
2 hr./1 hr.	Wall	2-hr. gypsum panel wall—nom. 3½" diam. Schedule 10 pipe; nom. 3½" diam. tubing or conduit; nom. 4" diam. Type L copper tubing—annular space min. 0" (point contact) to max. ½"—min. 1" deep FIRECODE compound each side of wall— UL System WL-1063	SA-727 4
2 hr./1 hr.	Wall	2-hr. gypsum panel wall—max. 4" dia. Schedule 40 PVC pipe with ¼" annular space—min. 3" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. 1" deep FIRECODE compound each side of wall—three layers nom. ¼"x2" intumescent wrap each surface of wall—2" deep steel collar, 0.016" galv. sheet steel with anchor tab each side of wall— UL System WL-2023	SA-727 5
2 hr./½ hr.	Wall	2-hr. gypsum panel wall—nomn. 4"x6" No. 28 MSG galv. sheet metal air duct—min. 3" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. 1" deep FIRECODE compound each side of wall— UL System WL-7002	SA-727 6
2 hr./0 hr.	Wall	2-hr. gypsum panel wall—max. 4" EMT or galv. steel cond. or Schedule 5 steel pipe with ½"-2¼" annular space; or nom. 6" copper pipe with 1"-1¼" annular space—(option to pipe) 10% to max. 40% fill of 100 pair no. 24 AWG telephone cables with ½"-4½" annular space—min. 3" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. 1" deep FIRECODE compound each side of wall— UL Systems WL-1027 (Pipe), WL-3023 (Cable)	SA-727 7
1 hr./1 hr.	Wall	1-hr. gypsum panel wall—max. 4" dia. Schedule 40 PVC pipe with ¾"-1½" annular space—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. ½" deep FIRECODE compound each side of wall—three layers nom. ¼"x2" intumescent wrap each surface of wall—2" deep steel collar, 0.016" galv. sheet steel with anchor tab each side of wall— UL System WL-2036	SA-727 8
1 hr./0 & 1 hr.	Wall	1-hr. gypsum panel wall—max. 4" Schedule 10 pipe with ½"-1¼" annular space (0-hr. T); max. 4" cast or ductile pipe with ½"-1¼" annular space (0-hr. T); max. 4" EMT or steel conduit with ½"-1¼" annular space (1-hr. T); max. ¾" Type L copper tubing with ½"-1¼" annular space (0-hr. T); max. 4" Type L copper pipe with ¾"-1¼" annular space (0-hr. T)—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. ½" deep FIRECODE compound each side of wall— UL System WL-1039	SA-727 9
1 hr./0 & 1 hr.	Wall	1-hr. gypsum panel wall—min. 10% (1-hr. T) to max. 40% (0-hr. T) fill of 100 pair no. 24 AWG telephone cables with ½"-3½" annular space—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. ½" deep FIRECODE compound each side of wall— UL System WL-3034	SA-727 10
1 hr./0 hr.	Wall	1-hr. gypsum panel wall—nom. 3"x10" prefabricated 24 ga. air duct with ¾"-1" annular space—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. ½" deep FIRECODE compound each side of wall— UL System WL-7001	SA-727 11
2 hr./1 hr.	Floor/wall construction joint ⁽⁴⁾	Floor min. 3000 psi compressive strength concrete or steel floor and form units, composite 1½" deep, 24", 30" or 36" wide, galv. or painted steel fluted units min. 22-ga.—a 1-hr. fire-rated partition wall with 2"x4" wood 16" o.c. or min. 2½" steel 24" o.c., min. ½" wallboard each side (2 layers on each side for 2 hr. rating)—min. 2½" THERMAFIBER safing insulation (min. 3.5 pcf density)—min. ½" deep FIRECODE compound each side of wall—(1" depth on each side for 2 hr. rating)—UL witnessed fire test	SA-727 12

1 Refer to the UL Fire Resistance Directory for Through-Penetration Firestop Systems or contact U.S. Gypsum Company for complete information.

2 An "F" rating is based upon flame occurrence on the unexposed surface and hose steam endurance while the "T" rating is based upon the temperature rise as well as flame occurrence on the unexposed side of the fire stop and hose steam endurance.

3 There is a correlation between T and F ratings and the diameter of the pipe and the annular space between the pipe or conduit and the periphery of the opening.

4 Fire test of construction joint assembly is not UL-classified because there currently is no UL standard for testing construction joints.

H Access Floor Systems

Office Systems

PERFORMANCE

Rated Ultimate Load (lbs.)	Rated Safety Factor Load (lbs.)	Rated Concentrated Load (lbs.)	Rated Rolling Load (lbs.)	Recommended Impact Load (Lbs.)	Finished Floor Height	SYSTEM		Folder Reference	
						Panel	Understructure		
ULTIMA System									
2900	2.9	1000	600	100	Up to 36"	ULTIMA	CORNERLOC	SA-1027	1
2900	2.9	1000	600	100	Up to 12"	ULTIMA	FreeStanding	SA-1027	2
3500	2.3	1500	1250	175	Up to 36"	ULTIMA HD	CORNERLOC	SA-1027	3
WOOD-LOC System									
2000	2.0	1000	2000	120	Up to 24"	WL-1000	WOOD-LOC	SA-1027	4

Data Center Systems

PERFORMANCE

Rated Ultimate Load (lbs.)	Rated Concentrated Load (lbs.)	Rated Rolling Load (lbs.)	Impact Load (lbs.)	Recommended Finished Floor Height	SYSTEM		Folder Reference	
					Panel	Understructure		
WOOD-COR System								
2800	1000	800	120	Up to 36"	WC-1000	WOOD-COR Rigid Grid	SA-1027	5
2200	1000	600	120	Up to 24"	WC-1000	WOOD-COR SNAP-LOC	SA-1027	6
2000	1000	600	120	Up to 18"	WC-1000	WOOD-COR FreeStanding	SA-1027	7
Mark 30 System								
2500	1250	500	120	Up to 36"	MK-1250	Mark 30 Rigid Grid	SA-1027	8
2500	1250	500	120	Up to 24"	MK-1250	Mark 30 SNAP-LOC	SA-1027	9
3000	1500	600	120	Up to 36"	MK-1500	Mark 30 Rigid Grid	SA-1027	10
3000	1500	600	120	Up to 24"	MK-1500	Mark 30 SNAP-LOC	SA-1027	11
All-Steel System								
3600	1000	400	100	Up to 36"	AS-1000	Edge Support Rigid Grid	SA-1027	12
3100	1000	400	100	Up to 24"	AS-1000	SNAP-LOC	SA-1027	13
3000	1000	400	100	Up to 18"	AS-1000	FreeStanding	SA-1027	14
4600	1250	500	110	Up to 36"	AS-1250	Edge Support Rigid Grid	SA-1027	15
3800	1250	500	110	Up to 24"	AS-1250	SNAP-LOC	SA-1027	16
3500	1250	500	110	Up to 18"	AS-1250	FreeStanding	SA-1027	17
6000	1500	750	120	Up to 36"	AS-1500	Edge Support Rigid Grid	SA-1027	18
4000	1500	600	120	Up to 24"	AS-1500	SNAP-LOC	SA-1027	19
SOLIDFEEL II System								
4000	1000	800	125	Up to 36"	SF-1000	Edge Support Rigid Grid	SA-1027	20
3400	1000	800	125	Up to 24"	SF-1000	SNAP-LOC	SA-1027	21
3300	1000	800	125	Up to 18"	SF-1000	FreeStanding	SA-1027	22
5000	1250	1000	150	Up to 36"	SF-1250	Edge Support Rigid Grid	SA-1027	23
3500	1250	1000	150	Up to 24"	SF-1250	SNAP-LOC	SA-1027	24
3400	1250	1000	150	Up to 18"	SF-1250	FreeStanding	SA-1027	25
5200	1500	1200	175	Up to 36"	SF-1500	Edge Support Rigid Grid	SA-1027	26
7500	1500	1200	175	Up to 24"	SF-1500	SNAP-LOC	SA-1027	27
4000	2000	2000	200	Up to 36"	SF-2000	Edge Support Rigid Grid	SA-1027	28

Rated system loads shown are recommended by USG Interiors and tested in accordance with CISCA Testing Standards. For higher finished floor heights, contact Technical Services at 1-800-522-3666.

Metric Conversions

The federal government segment of the construction industry is in the midst of changing to metric measurement and the coming changes will have an impact on U.S. Gypsum Company and USG Interiors, Inc. products.

Metric is Part of Federal Procurement

In 1988 federal law mandated the metric system as the preferred system of measurement in the United States, and required that metric measurement be used in all federal procurement, to the extent feasible, by September 30, 1992. The intent of this conversion is to make the United States more competitive in a global market that is now virtually all metric.

In July, 1990, President George Bush signed executive order 12770, *Metric Usage in Federal Government Programs*, which required all agencies to establish milestones and timetables for conversion. Most agencies have agreed to require that all plans and specifications for government projects be metric effective January 1, 1994.

What Is Changing?

Many of the building materials, systems and documents used in federal projects will be affected by the change to metric.

Drawings—Units are changing from feet and inches to millimeters, scales are changing from inch fractions to feet (for example,

1/4"=1'0") to true ratios (such as 1:20). Drawings are not to be dual dimensioned, in order to avoid dimensional conflicts and errors.

Specifications—Specs will call for metric linear dimensions, areas, and volumes.

Construction Products—A majority of construction products won't change in size since they are not modular or panelized. They will simply be "soft converted" or re-labeled in metric dimensions.

Framing—Stud spacing is changing from 16" to 400 mm and 24" to 600 mm. Wood studs likely will keep their nominal name, or may be re-labeled a nominal 50 mm x 100 mm or a more exact size.

Drywall, Plywood, and Rigid Insulation—Width is changing from 4'0" to 1200 mm. Length is changing from 8'0" to 2400 mm, 10'0" to 3000 mm. Actual product thickness will not change since it would affect fire, sound, and thermal ratings of assemblies.

Batt Insulation—Width is changing from 16" and 24" nominal to 400 mm and 600 mm nominal, or no change, just more of a friction fit.

Ceiling Systems—Grids and lay-in ceiling tile, air diffusers and lighting fixtures, from 2'x2' to 600 mm x 600 mm and from 2'x4' to 600 mm x 1200 mm. Grid profiles, tile thicknesses, air diffuser capacities and fluorescent tubes will not change.

Raised Floor Systems—Changing from 2'x2' to 600 mm x 600 mm. Support systems will not change.

USG Corporation Metric Policy

USG Corporation supports the intent of the metric conversion program. USG has manufactured metric size products for export for many years on a special order basis. USG will make every reasonable effort to make metric products available to the federal market on a special order basis.

USG Interiors, Inc. is prepared to offer metric sizes in most of its acoustical panel and suspension systems. See *SA-905-ME Ceiling Systems (Metric Version)* for further details.

From U. S. Gypsum Company, metric width and length SHEETROCK brand Gypsum Panel products will be available from designated manufacturing plants throughout the United States. Metric length DUROCK Cement Board products will also be available from designated manufacturing plants. Certain minimum order quantities and up-charges may apply, as determined by local market conditions.

Many bag and pail products, including SHEETROCK joint treatment products, spray textures, gypsum plasters and other products already carry soft metric designations for size and/or weight.

Important: The basic USG product line will remain unchanged—standard foot/inch/pound products previously available from USG will still be readily available. The addition of metric length/width products will allow us to supply all job requirements, whether standard or metric.

USG Corporation will offer assistance to construction professionals with regard to design, specification and installation issues involving our metric products, just as we always have with our standard products.

Metric Changes—Board Dimensions

Current Dimension	New Metric Dimension
8 ft. (2438.4 mm)	2400 mm (94.49 in.)
9 ft. (2743.2 mm)	2700 mm (106.3 in.)
10 ft. (3048.0 mm)	3000 mm (118.11 in.)
12 ft. (3657.6 mm)	3600 mm (141.73 in.)

Metric Changes—Board Thickness*

Current Dimension	New Metric Product Designation	Nominal Dimension
¼ in.	6.4 mm	6 mm
⅝ in.	8.0 mm	8 mm
¾ in.	9.5 mm	10 mm
1 in.	12.7 mm	13 mm
1 ⅛ in.	15.9 mm	16 mm
1 ¼ in.	19.1 mm	19 mm
1 ½ in.	25.4 mm	25 mm

*As noted above, thickness of board products will not change.

Metric dimension board will carry new soft conversion thickness designations. However, not all thickness designations and end tapes will change immediately.

Metric Changes—Board Installation Dimensions

Current Dimension	New Metric Dimension
12 in. (304.8 mm)	300 mm (11 ⅞ in.)
16 in. (406.4 mm)	400 mm (15 ¾ in.)
24 in. (609.6 mm)	600 mm (23 ⅞ in.)
48 in. (1219.2 mm)	1200 mm (47 ¼ in.)

For Information and Assistance

Check current printed USG literature for more information on product sizing and availability. Information on specific metric product availability in your market area may be obtained from USG sales or customer service representatives. They can be reached at local sales offices or order centers. This literature contains a list of USG sales offices throughout the country. More information on this conversion process will be available in the coming months.

USG Area Technical Marketing Managers are familiar with the metric changes and may be contacted for assistance with product design or selection information. Contact them through local or area sales offices. Product literature requests for U. S. Gypsum Company can be handled by calling 1-800-USG-4YOU (1-800-874-4968); for ceiling and demountable wall products, 1-800-950-3839; for raised excess floors, 1-800-522-3666; for mineral wool insulation, 1-312-606-4000; for export information from USG International, Ltd., 1-312-606-4000.

J Product/System Catalogs

Title	Folder reference
USG Exterior Products & Systems	SA-700
Includes complete range of products for USG EIFS and DUROCK EIFS.	
THERMAFIBER Life-Safety Fire Containment Systems	SA-707
Curtain wall and safing insulation for fire-containment in high-rise buildings; sound attenuation fire blankets for outstanding thermal and sound control insulation; structural fireproofing.	
USG Fire Stop Systems for Floor and Wall Penetrations	SA-727
Systems combine FIRECODE Compound and THERMAFIBER Safing Insulation to provide wall and floor through-penetration firestops that combine exceptional economy and performance.	
DONN Ceiling Suspension Systems	SA-904
Exposed, narrow, concealed and special use DONN ceiling suspension systems.	

Title	Folder reference
Ceiling Systems	SA-905
ACOUSTONE, AURATONE, ECLIPSE and ORION mineral acoustical tile and panels; special-function tile and panels; gypsum ceiling board; ceiling suspension systems; fire protection and sound attenuation accessories.	
INTEGRATED CEILINGS Specialty Products	SA-906
Specialty ceiling and wall products.	
Plaster Systems	SA-920
Veneer basecoat and finish plasters; conventional basecoat, finish coat, and gauging plasters; accessories.	
Drywall/Steel Framed Systems	SA-923
Fire-resistant interior and exterior steel framed drywall systems; partitions, chase walls, resilient partitions, curved drywall partitions, soffits, floors, ceilings, column and beam fireproofing.	

Title	Folder reference
Drywall/Wood Framed Systems	SA-924
Basic gypsum drywall assemblies offer economical, quickly erected, load-bearing partitions, walls and ceilings wherever fire protection is desired with wood framing.	
USG Area Separation Fire Wall/Party Wall Systems	SA-925
Lightweight, non-load bearing gypsum drywall assemblies designed as vertical fire barriers for fire walls and party walls in wood-frame apartments and townhouses.	
USG Cavity Shaft Wall Systems	SA-926
Fire-resistant drywall partitions for enclosing shafts in multi-story buildings; engineered design provides a thin, lightweight assembly that offers faster installation and lower material costs.	
Gypsum Panels & Accessories	SA-927
Gypsum panels, coreboard, sheathing; metal and plastic trim, brackets, control joints; screws and adhesives; joint treatments.	

K Product/Specification Standards

The listings below contain existing Standard Specifications, classified as Federal or ASTM, which apply to USG Corporation materials. Where ASTM, local codes, etc. require product variance, consult your local representative.

Upon request United States Gypsum Company will provide product certification that these products confirm to the applicable U.S. Gypsum and ASTM standards and meet the performance values identified herein.

Product	Federal specification	ASTM designation
Plaster		
RED TOP gypsum plaster	—	C28—gypsum neat plaster
RED TOP two-purpose plaster	—	C28—gypsum neat plaster
RED TOP wood fiber plaster	—	C28—gypsum wood fiber
STRUCTO-LITE plaster	—	C28—gypsum ready mix plaster
perlite aggregate	—	C35
RED Top gauging plaster	—	C28—gypsum gauging for finish coat
RED TOP keenes cement regular	—	C61
quick trowel	—	C61
STRUCTO-GAUGE plaster	—	C28—gypsum gauging for finish coat
STRUCTO-BASE plaster	—	C28—gypsum neat plaster
IMPERIAL plaster	—	C587—gypsum veneer plaster
DIAMOND plaster	—	C587—gypsum veneer plaster
Gypsum lathing		
ROCKLATH plaster base ⅝ & ⅞	—	C37
IMPERIAL gypsum base ⅝ & ⅞	—	C588
Lime		
RED TOP and GRAND PRIZE finish limes	—	C206 type N
IVORY finish lime	—	C206 type S
RED TOP masons hydrate	—	C207 type N
Gypsum panels		
SHEETROCK brand (plain) (foil-back)	—	C36
SHEETROCK brand sq. edge	—	C36
SHEETROCK brand tap. edge	—	C36
SHEETROCK brand bev. edge	—	C36
⅝ SHEETROCK brand FIRECODE core	—	C36
SHEETROCK brand FIRECODE C core	—	C36
TEXTONE vinyl-covered	—	C960
SHEETROCK brand water-resistant	—	C630

Title	Folder reference
TEXTONE Vinyl-Faced Gypsum Panels	SA-928
Predecorated vinyl-faced gypsum panels; mouldings and accessories.	
DUROCK Cement Board Systems	SA-932
Ceramic tile backer board for interior walls, ceilings, floors, counter tops; adhesives, mortars, grouts.	
Texture and Finish Products	SA-933
Ready-mixed and powder texture finishes; spray acoustical finish.	
Wall Systems	SA-1020
Relocatable partitions for commercial, institutional, and industrial applications meet range of requirements for performance, appearance, flexibility and cost control.	
DONN Access Floor Systems	SA-1027
Access floor systems for offices and computer rooms; electrical outlet systems; air distribution; floor coverings; accessories.	
STRUCTOCORE Security Wall Systems	SA-1119
Steel forming for security walls, prison cells, high-abuse walls; steel mesh design properties; details and specifications.	

Product	Federal specification	ASTM designation
SHEETROCK brand gypsum coreboard panels	—	C442
SHEETROCK brand exterior gypsum ceiling board	—	C931
SHEETROCK brand interior gypsum ceiling board	—	C36
Cement panels		
DUROCK cement panels	—	C1186
Sheathing		
SHEETROCK brand gypsum sheathing	—	C79
Joint treatment		
SHEETROCK joint compounds	—	C475
Firestopping		
FIRECODE Compound	—	E814
Accessories		
SJ studs, CR runners	QQ-S-775E type I, class e (steel)	C645, C955, A568 A525 (galv. coating), A792 (alum.-zinc coating), A591 (galv. coating)
ST25/22 studs, CR25/22 runners	QQ-S-775E, type 1, class f (steel)	C645, A568 (steel), A525 (galv. coating), A463 (alum. coating), A792 (alum.-zinc coating), A591 (galv. coating)
ST20 studs, CR20 runners	QQ-S-775E, type 1, class e	C645, A568 (steel), A446 (steel), A525 (galv. coating), A792 (alum.-zinc coating), A591 (galv. coating)
RC-1 resilient channels	QQ-S-775E, type 1, class f (steel)	A568 (steel), A525 (galv. coating), A792 (alum.-zinc coating)
SHEETROCK Zinc Control Joints	—	C841
DUR-A-BEAD Corner Bead	—	C1047
SHEETROCK Metal Trims	—	C1047



Product	Federal specification	ASTM designation
Accessories		
Shaft wall/area separation wall studs	—	A446 (steel) A525 (galv. coating) A792 (alum.-zinc coating) A591 (galv. coating)
Drywall screws SUPER-TITE screws	—	C1002 (type S) C954 (type S-12 and SUPER-TITE DRILLERS)
SHEETROCK acoustical sealant	—	C919
Acoustical units—prefabricated		
ACOUSTONE AURATONE	—	C423, C523, C635, C636, C117, E84, E119, E1264
Ceiling suspension system		
DONN Grid	—	C635, C636, C645, C841, E119, E1264
Mineral fiber insulation		
THERMAFIBER open face batt (membrane facing one side) blanket batt (with enveloping membranes) blowing wool pouring wool sound atten. fire blanket	— <	

* Recognized by ICBO, BOCA and SBCCI.

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